

Environmental
Notification
Form

ARBORWAY

STREETCAR RESTORATION

P r o j e c t



Massachusetts
Bay
Transportation
Authority

March 18, 2003

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ENF Form

ENF Environmental Notification Form

For Office Use Only
Executive Office of Environmental Affairs

EOEA No.:
MEPA Analyst:
Phone: 617-626-

The information requested on this form must be completed to begin MEPA Review in accordance with the provisions of the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: Arborway Streetcar Restoration Project		
Street: South Huntington Avenue, Centre and South Streets		
Municipality: Boston	Watershed:	
Universal Transverse Mercator Coordinates: U2M 19 3256 26E 4685160N	Latitude: 42.30N Longitude: 71.12W	
Estimated commencement date: 6/2004	Estimated completion date: 12/2006	
Approximate cost: \$95 Million	Status of project design: 15% complete	
Proponent: Massachusetts Bay Transportation Authority		
Street: 10 Park Plaza		
Municipality: Boston	State: MA	Zip Code: 02116
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Andrew D. Brennan, Director of Environmental Affairs		
Firm/Agency: MBTA	Street: 10 Park Plaza	
Municipality: Boston	State: MA	Zip Code: 02116
Phone: 617-222-3126	Fax: 617-222-1557	E-mail: abrennan@mbta.com

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?

☒ Yes

☐ No

Has this project been filed with MEPA before?

☐ Yes (EOEA No. _____)

☒ No

Has any project on this site been filed with MEPA before?

☐ Yes (EOEA No. _____)

☒ No

Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting:

a Single EIR? (see 301 CMR 11.06(8))

☒ Yes

☐ No

a Special Review Procedure? (see 301 CMR 11.09)

☐ Yes

☐ No

a Waiver of mandatory EIR? (see 301 CMR 11.11)

☐ Yes

☐ No

a Phase I Waiver? (see 301 CMR 11.11)

☐ Yes

☐ No

Identify any financial assistance or land transfer from an agency of the Commonwealth, including the agency name and the amount of funding or land area (in acres):

The project will be funded by MBTA revenue bonds.

Are you requesting coordinated review with any other federal, state, regional, or local agency?

☐ Yes (Specify _____) ☒ No

List Local or Federal Permits and Approvals: MDC Curb Cut Permit may be required: NPDES

General Permit for stormwater discharge (construction activity). Compliance with the MCP will be required for soils removal.

Which ENF or EIR review threshold(s) does the project meet or exceed (see 301 CMR 11.03):

- | | | |
|---------------------------------|---------------------------------------|--|
| <input type="checkbox"/> Land | <input type="checkbox"/> Rare Species | <input type="checkbox"/> Wetlands, Waterways, & Tidelands |
| <input type="checkbox"/> Water | <input type="checkbox"/> Wastewater | <input checked="" type="checkbox"/> Transportation |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Air | <input type="checkbox"/> Solid & Hazardous Waste |
| <input type="checkbox"/> ACEC | <input type="checkbox"/> Regulations | <input type="checkbox"/> Historical & Archaeological Resources |

Summary of Project Size & Environmental Impacts	Existing	Change	Total	State Permits & Approvals
LAND				<input type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input type="checkbox"/> Chapter 91 License <input type="checkbox"/> 401 Water Quality Certification <input type="checkbox"/> MHD or MDC Access Permit <input type="checkbox"/> Water Management Act Permit <input type="checkbox"/> New Source Approval <input type="checkbox"/> DEP or MWRA Sewer Connection/Extension Permit <input checked="" type="checkbox"/> Other Permits <i>(including Legislative Approvals) – Specify:</i> MDC Access Permit
Total site acreage	N/A			
New acres of land altered		N/A		
Acres of impervious area	N/A			
Square feet of new bordering vegetated wetlands alteration		0		
Square feet of new other wetland alteration		0		
Acres of new non-water dependent use of tidelands or waterways		0		
STRUCTURES				
Gross square footage				
Number of housing units	0	0	0	
Maximum height (in feet)				
TRANSPORTATION				
Vehicle trips per day	N/A			
Parking spaces	See narrative.			
WATER/WASTEWATER				
Gallons/day (GPD) of water use	N/A			
GPD water withdrawal	N/A			
GPD wastewater generation/treatment	N/A			
Length of water/sewer mains (in miles)	N/A			

CONSERVATION LAND: Will the project involve the conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97?

☐ Yes (Specify _____) ☒ No

Will it involve the release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction?

☐ Yes (Specify _____) ☒ No

RARE SPECIES: Does the project site include Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities?

☐ Yes (Specify _____) ☒ No

HISTORICAL /ARCHAEOLOGICAL RESOURCES: Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?

☒ Yes (Specify See attached narrative) ☐ No

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources?

☐ Yes (Specify _____) ☒ No

AREAS OF CRITICAL ENVIRONMENTAL CONCERN: Is the project in or adjacent to an Area of Critical Environmental Concern?

☐ Yes (Specify _____) ☒ No

PROJECT DESCRIPTION: The project description should include **(a)** a description of the project site, **(b)** a description of both on-site and off-site alternatives and the impacts associated with each alternative, and **(c)** potential on-site and off-site mitigation measures for each alternative (*You may attach one additional page, if necessary.*)

The proposed Arborway Streetcar Restoration project will restore MBTA Green Line service along a 2.2-mile corridor from the existing Green Line Heath Street Station to the MBTA Forest Hills Station and will include a new maintenance facility at Washington Street and Arborway. The corridor is generally divided into three distinct sections, with each section possessing varying widths, land uses, and operational considerations. These sections are generally defined as: 1) South Huntington Avenue, 2) Centre Street, and 3) South Street.

The project will provide light rail service along this corridor with new tracks, American with Disabilities Act (ADA) compliant stations, a new power substation, a maintenance facility, and the appropriate overhead contact systems, signals, lighting, and station amenities.

The Arborway Green Line Restoration project is part of a comprehensive program to achieve a series of broad transportation and development goals, as well as specific objectives for improving the quality of transportation services and the equity of the distribution of services within the urban core. The broader goals and objectives, adopted at state and regional levels, support a long-term development and transportation strategy for the Boston metropolitan region.

The Arborway Corridor project requires review under the Massachusetts Environmental Policy Act (MEPA) because it is "construction of a new rail or rapid transit line along a new, unused, or abandoned right-of-way" (301 CMR 11.03(6)(a)5). The project requires the filing and public review of an Environmental Notification Form (ENF) and Environmental Impact Report (EIR). In accordance with MEPA regulations at 301CMR 11.06(8), the MBTA has filed this Expanded ENF and requests that the Secretary allow preparation of a Single EIR. This Expanded ENF provides an analysis and description of the project and all feasible alternatives, shows that all feasible means to avoid impacts will be taken into consideration, and serves as the baseline to assess environmental impacts and identify mitigation measures. The detailed analysis of impacts and mitigation measures will be provided in the EIR.

As alternatives to the proposed project, the MBTA has evaluated, and dismissed from further consideration, a No-Build alternative, as well as the use of 60-foot Compressed Natural Gas (CNG) buses on the corridor. Section 2.0 of this ENF further describes the history of the alternatives analysis performed to date.

The MBTA currently uses double-ended articulated light rail vehicles for their Green Line service. The MBTA anticipates bringing new low-floor accessible vehicles (Type 8) into the service over the next several years. Due to this anticipated change in vehicle type, the new station platforms will be designed to accommodate the new low-floor light rail vehicles (LRV). Each LRV is approximately 8 feet 6 inches wide and 72 feet long plus one foot for coupling on each end of the vehicle with a capacity for 201 passengers. The two low floor doors

are located approximately 18 feet from each end of the trolley. The initial MBTA operation of this Green Line extension assumes a two-car consist, which will be a mixture of high- and low-floor light rail vehicles totaling 146 feet in length. Stations will be designed to accommodate two low-floor vehicles.

The existing tracks along the corridor will be removed and replaced with a new track structure. The new track alignments along the corridor will consist of two tracks, inbound and outbound, constructed within the roadway travel lanes. The track centers will typically be spaced 10 feet 6 inches apart on South and Centre Streets, and approximately 15 feet apart on South Huntington Avenue. The existing traction power system, which formerly provided electric power to the old PCC cars, does not provide adequate power to the new MBTA LRV fleet as the current fleet is much heavier and is equipped with air conditioning. A new substation along the project corridor will be necessary to meet the power requirements. Preliminary studies have shown that it is not feasible to transmit power from existing power substations along the Orange Line corridor. The exact size and location will be determined through a power simulation model that will be performed at a future stage in the project and documented in the EIR. Several alternative sites along or in close proximity to the corridor were considered, with the MBTA concluding that the Heath Street loop location is the preferred alternative for the substation.

After an extensive public involvement program, the MBTA is proposing eight new station locations in addition to the Heath Street and Forest Hills Stations. Additional locations include Child Street, Monument, JP Center, Beaufort Road, Moraine Street/Boylston Street, Perkins Street, Bynner Street and the VA Hospital. Station platforms will be two inches higher than the typical sidewalk and will be designed to appear as an integral part of the sidewalk. Stations will be a "trolley plaza" design with curb alignment that widens the sidewalk area, extending across the parking lane to the edge of the travel lane. The plaza essentially brings the station platform to the track alignment within the travel lane. Stations may also include amenities such as canopies, trash receptacles and vending machines.

The proposed maintenance facility for the LRVs will be on a MBTA-owned 0.8-acre lot near the Forest Hills Station located on the corner of Washington Street and Arborway. A new MBTA bus maintenance facility will be located on the adjacent MBTA owned parcel of land. This Arborway Bus Transit Facility is being designed and constructed under a separate contract, and has been reviewed under MEPA (EOEA File No. 12898). The LRV maintenance facility will consist of two tracks with a small structure for vehicle maintenance and storage. The size of the facility will be dependent on the number of streetcars requiring storage.

The operating plan is currently under development. Constraints that affect the operating plan include operations of the existing Green Line system, which must be integrated with this service extension. A streetcar simulation to determine the travel time along the corridor will be done in further stages of this project and documented in the EIR, which will contain a full analysis of the development of the operating plan.

This Expanded ENF identifies the impact methodology to be used for identifying impacts to the neighborhoods and to cultural and community resources, as well as the mitigation measures to be further evaluated in the EIR.

LAND SECTION – all proponents must fill out this section

I. Thresholds / Permits

A. Does the project meet or exceed any review thresholds related to **land** (see 301 CMR 11.03(1))
___ Yes X No; if yes, specify each threshold:

II. Impacts and Permits

A. Describe, in acres, the current and proposed character of the project site, as follows:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Footprint of buildings	<u>0</u>	<u>TBD</u>	<u> </u>
Roadways, parking, and other paved areas	<u> </u>	<u>0</u>	<u> </u>
Other altered areas (describe)	<u> </u>	<u>0</u>	<u> </u>
Undeveloped areas	<u> </u>	<u>0</u>	<u> </u>

B. Has any part of the project site been in active agricultural use in the last three years?
___ Yes X No; if yes, how many acres of land in agricultural use (with agricultural soils) will be converted to nonagricultural use?

C. Is any part of the project site currently or proposed to be in active forestry use?
___ Yes X No; if yes, please describe current and proposed forestry activities and indicate whether any part of the site is the subject of a DEM-approved forest management plan:

D. Does any part of the project involve conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97? ___ Yes X No; if yes, describe:

E. Is any part of the project site currently subject to a conservation restriction, preservation restriction, agricultural preservation restriction or watershed preservation restriction? ___ Yes X No; if yes, does the project involve the release or modification of such restriction? ___ Yes X No; if yes, describe:

F. Does the project require approval of a new urban redevelopment project or a fundamental change in an existing urban redevelopment project under M.G.L.c.121A? ___ Yes X No; if yes, describe:

G. Does the project require approval of a new urban renewal plan or a major modification of an existing urban renewal plan under M.G.L.c.121B? Yes ___ No X; if yes, describe:

H. Describe the project's stormwater impacts and, if applicable, measures that the project will take to comply with the standards found in DEP's Stormwater Management Policy: Not applicable

I. Is the project site currently being regulated under M.G.L.c.21E or the Massachusetts Contingency Plan? Yes ___ No X; if yes, what is the Release Tracking Number (RTN)?

J. If the project is site is within the Chicopee or Nashua watershed, is it within the Quabbin, Ware, or Wachusett subwatershed? ___ Yes X No; if yes, is the project site subject to regulation under the Watershed Protection Act? ___ Yes X No

K. Describe the project's other impacts on land: The only land impact anticipated is the construction of a maintenance facility on MBTA-owned property, and the construction of a small power substation at a location to be determined.

III.. Consistency

A. Identify the current municipal comprehensive land use plan and the open space plan and describe the consistency of the project and its impacts with that plan(s): Not applicable

B. Identify the current Regional Policy Plan of the applicable Regional Planning Agency and describe the consistency of the project and its impacts with that plan: MBTA TO PROVIDE.

C. Will the project require any approvals under the local zoning by-law or ordinance (i.e. text or map amendment, special permit, or variance)? Yes ☐ No ☒ ; if yes, describe:

D. Will the project require local site plan or project impact review?

☐ Yes ☒ No; if yes, describe:

RARE SPECIES SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **rare species or habitat** (see 301 CMR 11.03(2))? ☐ Yes ☒ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **rare species or habitat**? ☐ Yes ☒ No

C. If you answered "No" to both questions A and B, proceed to the **Wetlands, Waterways, and Tidelands Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Rare Species section below.

II. Impacts and Permits

A. Does the project site fall within Priority or Estimated Habitat in the current Massachusetts Natural Heritage Atlas (attach relevant page)? ☐ Yes ☐ No. If yes,

1. Which rare species are known to occur within the Priority or Estimated Habitat (contact: Environmental Review, Natural Heritage and Endangered Species Program, Route 135, Westborough, MA 01581, allowing 30 days for receipt of information):

2. Have you surveyed the site for rare species? ☐ Yes ☐ No; if yes, please include the results of your survey.

3. If your project is within Estimated Habitat, have you filed a Notice of Intent or received an Order of Conditions for this project? ☐ Yes ☐ No; if yes, did you send a copy of the Notice of Intent to the Natural Heritage and Endangered Species Program, in accordance with the Wetlands Protection Act regulations? ☐ Yes ☐ No

B. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ☐ Yes ☐ No; if yes, describe:

C. Will the project alter "significant habitat" as designated by the Massachusetts Division of Fisheries and Wildlife in accordance with M.G.L. c.131A (see also 321 CMR 10.30)? ☐ Yes ☐ No; if yes, describe:

D. Describe the project's other impacts on rare species including indirect impacts (for example, stormwater runoff into a wetland known to contain rare species or lighting impacts on rare moth habitat):

WETLANDS, WATERWAYS, AND TIDELANDS SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **wetlands, waterways, and tidelands** (see 301 CMR 11.03(3))? ☐ Yes ☒ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits (or a local Order of Conditions) related to **wetlands, waterways, or tidelands**? ☐ Yes ☒ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Water Supply Section**. If you

answered "Yes" to either question A or question B, fill out the remainder of the Wetlands, Waterways, and Tidelands Section below.

II. Wetlands Impacts and Permits

A. Describe any wetland resource areas currently existing on the project site and indicate them on the site plan:

B. Estimate the extent and type of impact that the project will have on wetland resources, and indicate whether the impacts are temporary or permanent:

<u>Coastal Wetlands</u>	<u>Area (in square feet) or Length (in linear feet)</u>
Land Under the Ocean	_____
Designated Port Areas	_____
Coastal Beaches	_____
Coastal Dunes	_____
Barrier Beaches	_____
Coastal Banks	_____
Rocky Intertidal Shores	_____
Salt Marshes	_____
Land Under Salt Ponds	_____
Land Containing Shellfish	_____
Fish Runs	_____
Land Subject to Coastal Storm Flowage	_____
<u>Inland Wetlands</u>	
Bank	_____
Bordering Vegetated Wetlands	_____
Land under Water	_____
Isolated Land Subject to Flooding	_____
Bordering Land Subject to Flooding	_____
Riverfront Area	_____

C. Is any part of the project

1. a limited project? ☐ Yes ☐ No
2. the construction or alteration of a dam? ☐ Yes ☐ No; if yes, describe:
3. fill or structure in a velocity zone or regulatory floodway? ☐ Yes ☐ No
4. dredging or disposal of dredged material? ☐ Yes ☐ No; if yes, describe the volume of dredged material and the proposed disposal site:
5. a discharge to Outstanding Resource Waters? ☐ Yes ☐ No
6. subject to a wetlands restriction order? ☐ Yes ☐ No; if yes, identify the area (in square feet):

D. Does the project require a new or amended Order of Conditions under the Wetlands Protection Act (M.G.L. c.131A)? ☐ Yes ☐ No; if yes, has a Notice of Intent been filed or a local Order of Conditions issued? ☐ Yes ☐ No; if yes, list the date and DEP file number:_____.
Was the Order of Conditions appealed? ☐ Yes ☐ No. Will the project require a variance from the Wetlands regulations? ☐ Yes ☐ No.

E. Will the project:

1. be subject to a local wetlands ordinance or bylaw? ☐ Yes ☐ No
2. alter any federally-protected wetlands not regulated under state or local law?
☐ Yes ☐ No; if yes, what is the area (in s.f.)?

F. Describe the project's other impacts on wetlands (including new shading of wetland areas or removal of tree canopy from forested wetlands):

III. Waterways and Tidelands Impacts and Permits

A. Is any part of the project site waterways or tidelands (including filled former tidelands) that are

subject to the Waterways Act, M.G.L.c.91? ☐ Yes ☐ No; if yes, is there a current Chapter 91 license or permit affecting the project site? ☐ Yes ☐ No; if yes, list the date and number:

B. Does the project require a new or modified license under M.G.L.c.91? ☐ Yes ☐ No; if yes, how many acres of the project site subject to M.G.L.c.91 will be for non-water dependent use?
Current ☐ Change ☐ Total ☐

C. Is any part of the project
1. a roadway, bridge, or utility line to or on a barrier beach? ☐ Yes ☐ No; if yes, describe:
2. dredging or disposal of dredged material? ☐ Yes ☐ No; if yes, volume of dredged material
3. a solid fill, pile-supported, or bottom-anchored structure in flowed tidelands or other waterways? ☐ Yes ☐ No; if yes, what is the base area?
4. within a Designated Port Area? ☐ Yes ☐ No

D. Describe the project's other impacts on waterways and tidelands:

IV. Consistency:

A. Is the project located within the Coastal Zone? ☐ Yes ☐ No; if yes, describe the project's consistency with policies of the Office of Coastal Zone Management:

B. Is the project located within an area subject to a Municipal Harbor Plan? ☐ Yes ☐ No; if yes, identify the Municipal Harbor Plan and describe the project's consistency with that plan:

WATER SUPPLY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **water supply** (see 301 CMR 11.03(4))? ☐ Yes ☒ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **water supply**? ☐ Yes ☒ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Wastewater Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Water Supply Section below.

II. Impacts and Permits

A. Describe, in gallons/day, the volume and source of water use for existing and proposed activities at the project site:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Withdrawal from groundwater	<input type="text"/>	<input type="text"/>	<input type="text"/>
Withdrawal from surface water	<input type="text"/>	<input type="text"/>	<input type="text"/>
Interbasin transfer	<input type="text"/>	<input type="text"/>	<input type="text"/>
Municipal or regional water supply	<input type="text"/>	<input type="text"/>	<input type="text"/>

B. If the source is a municipal or regional supply, has the municipality or region indicated that there is adequate capacity in the system to accommodate the project? ☐ Yes ☐ No

C. If the project involves a new or expanded withdrawal from a groundwater or surface water source,

- application
1. have you submitted a permit application? ☐ Yes ☐ No; if yes, attach the
 2. have you conducted a pump test? ☐ Yes ☐ No; if yes, attach the pump test report

D. What is the currently permitted withdrawal at the proposed water supply source (in gallons/day)?
_____ Will the project require an increase in that withdrawal? ___ Yes ___ No

E. Does the project site currently contain a water supply well, a drinking water treatment facility, water main, or other water supply facility, or will the project involve construction of a new facility?
___ Yes ___ No. If yes, describe existing and proposed water supply facilities at the project site:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Water supply well(s) (capacity, in gpd)	_____	_____	_____
Drinking water treatment plant (capacity, in gpd)	_____	_____	_____
Water mains (length, in miles)	_____	_____	_____

F. If the project involves any interbasin transfer of water, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or proposed?

G. Does the project involve

1. new water service by a state agency to a municipality or water district? ___ Yes ___ No
2. a Watershed Protection Act variance? ___ Yes ___ No; if yes, how many acres of alteration?
3. a non-bridged stream crossing 1,000 or less feet upstream of a public surface drinking water supply for purpose of forest harvesting activities? ___ Yes ___ No

H. Describe the project's other impacts (including indirect impacts) on water resources, quality, facilities and services:

III. **Consistency** -- Describe the project's consistency with water conservation plans or other plans to enhance water resources, quality, facilities and services:

WASTEWATER SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **wastewater** (see 301 CMR 11.03(5))? ___ Yes ___X___ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **wastewater**? ___ Yes ___X___ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Transportation -- Traffic Generation Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wastewater Section below.

II. Impacts and Permits

A. Describe, in gallons/day, the volume and disposal of wastewater generation for existing and proposed activities at the project site (calculate according to 310 CMR 15.00):

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Discharge to groundwater (Title 5)	_____	_____	_____
Discharge to groundwater (non-Title 5)	_____	_____	_____
Discharge to outstanding resource water	_____	_____	_____
Discharge to surface water	_____	_____	_____
Municipal or regional wastewater facility	_____	_____	_____
TOTAL	_____	_____	_____

B. Is there sufficient capacity in the existing collection system to accommodate the

project?

___ Yes ___ No; if no, describe where capacity will be found:

C. Is there sufficient existing capacity at the proposed wastewater disposal facility? ___ Yes ___ No; if no, describe how capacity will be increased:

D. Does the project site currently contain a wastewater treatment facility, sewer main, or other wastewater disposal facility, or will the project involve construction of a new facility? ___ Yes ___ No. If yes, describe as follows:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Wastewater treatment plant (capacity, in gpd)	_____	_____	_____
Sewer mains (length, in miles)	_____	_____	_____
Title 5 systems (capacity, in gpd)	_____	_____	_____

E. If the project involves any interbasin transfer of wastewater, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or proposed?

F. Does the project involve new sewer service by an Agency of the Commonwealth to a municipality or sewer district? ___ Yes ___ No

G. Is there any current or proposed facility at the project site for the storage, treatment, processing, combustion or disposal of sewage sludge, sludge ash, grit, screenings, or other sewage residual materials? ___ Yes ___ No; if yes, what is the capacity (in tons per day):

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Storage	_____	_____	_____
Treatment, processing	_____	_____	_____
Combustion	_____	_____	_____
Disposal	_____	_____	_____

H. Describe the project's other impacts (including indirect impacts) on wastewater generation and treatment facilities:

III. Consistency -- Describe measures that the proponent will take to comply with federal, state, regional, and local plans and policies related to wastewater management:

A. If the project requires a sewer extension permit, is that extension included in a comprehensive wastewater management plan? ___ Yes ___ No; if yes, indicate the EOE number for the plan and describe the relationship of the project to the plan

TRANSPORTATION -- TRAFFIC GENERATION SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **traffic generation** (see 301 CMR 11.03(6))? ___ Yes ___X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **state-controlled roadways**? X Yes ___ No; if yes, specify which permit: MDC Access (for curb cut to Arborway)

C. If you answered "No" to both questions A and B, proceed to the **Roadways and Other**

Transportation Facilities Section. If you answered "Yes" to either question A or question B, fill out the remainder of the Traffic Generation Section below.

II. Traffic Impacts and Permits

A. Describe existing and proposed vehicular traffic generated by activities at the project site:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Number of parking spaces	<u>NA</u>	<u>decrease</u>	<u> </u>
Number of vehicle trips per day	<u>NA</u>	<u>decrease</u>	<u> </u>
ITE Land Use Code(s):			

B. What is the estimated average daily traffic on roadways serving the site?

	<u>Roadway</u>	<u>Existing</u>	<u>Change</u>	<u>Total</u>
1.	<u> </u>	<u> </u>	<u> </u>	<u> </u>
2.	<u> </u>	<u> </u>	<u> </u>	<u> </u>
3.	<u> </u>	<u> </u>	<u> </u>	<u> </u>

D. Describe how the project will affect transit, pedestrian and bicycle transportation facilities and services:

The project will provide new transit facilities (light rail service) connecting the existing Green Line at Heath Street with the Forest Hills station. The restoration of Green Line service will extend and improve connections within the transit system and will benefit pedestrians.

III. Consistency -- Describe measures that the proponent will take to comply with municipal, regional, state, and federal plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services:

The Arborway Streetcar Restoration project is part of a comprehensive program to achieve a series of broad transportation and development goals, as well as specific objectives for improving the quality of transportation services and the equity of the distribution of services within the urban core.

The broader goals and objectives, adopted at state and regional levels, support a long-term development and transportation strategy for the Boston metropolitan region. The project is consistent with the MBTA's Program for Mass Transit, and with the Massachusetts State Implementation Plan (SIP).

ROADWAYS AND OTHER TRANSPORTATION FACILITIES SECTION

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **roadways or other transportation facilities** (see 301 CMR 11.03(6))? X Yes No; if yes, specify, in quantitative terms:

(6) (a) (5) Construction of a New rail or rapid transit line along a New, unused or abandoned right-of-way for transportation of passengers or freight

B. Does the project require any state permits related to **roadways or other transportation facilities**? Yes X No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Energy Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Roadways Section below.

II. Transportation Facility Impacts

A. Describe existing and proposed transportation facilities at the project site:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Length (in linear feet) of new or widened roadway	<u> N/A </u>	<u> 0 </u>	<u> </u>
Width (in feet) of new or widened roadway	<u> N/A </u>	<u> 0 </u>	<u> </u>
Other transportation facilities:			

B. Will the project involve any

1. Alteration of bank or terrain (in linear feet)?	<u> No </u>
2. Cutting of living public shade trees (number)?	<u> No </u>
3. Elimination of stone wall (in linear feet)?	<u> No </u>

III. Consistency -- Describe the project's consistency with other federal, state, regional, and local plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services, including consistency with the applicable regional transportation plan and the Transportation Improvements Plan (TIP), the State Bicycle Plan, and the State Pedestrian Plan:

The project is consistent with the MBTA's Program for Mass Transit, and with the Massachusetts State Implementation Plan (SIP).

ENERGY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **energy** (see 301 CMR 11.03(7))? ☐ Yes ☒ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **energy**? ☐ Yes ☒ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Air Quality Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Energy Section below.

II. Impacts and Permits

A. Describe existing and proposed energy generation and transmission facilities at the project site:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Capacity of electric generating facility (megawatts)	_____	_____	_____
Length of fuel line (in miles)	_____	_____	_____
Length of transmission lines (in miles)	_____	_____	_____
Capacity of transmission lines (in kilovolts)	_____	_____	_____

B. If the project involves construction or expansion of an electric generating facility, what are

1. the facility's current and proposed fuel source(s)?
2. the facility's current and proposed cooling source(s)?

C. If the project involves construction of an electrical transmission line, will it be located on a new, unused, or abandoned right of way? ☐ Yes ☐ No; if yes, please describe:

D. Describe the project's other impacts on energy facilities and services:

III. Consistency -- Describe the project's consistency with state, municipal, regional, and federal plans and policies for enhancing energy facilities and services:

AIR QUALITY SECTION

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **air quality** (see 301 CMR 11.03(8))? ☐ Yes ☒ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **air quality**? ☐ Yes ☒ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Solid and Hazardous Waste Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Air Quality Section below.

II. Impacts and Permits

A. Does the project involve construction or modification of a major stationary source (see 310 CMR 7.00, Appendix A)? ___ Yes ___ No; if yes, describe existing and proposed emissions (in tons per day) of:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Particulate matter	_____	_____	_____
Carbon monoxide	_____	_____	_____
Sulfur dioxide	_____	_____	_____
Volatile organic compounds	_____	_____	_____
Oxides of nitrogen	_____	_____	_____
Lead	_____	_____	_____
Any hazardous air pollutant	_____	_____	_____
Carbon dioxide	_____	_____	_____

B. Describe the project's other impacts on air resources and air quality, including noise impacts:

III. Consistency

A. Describe the project's consistency with the State Implementation Plan:

B. Describe measures that the proponent will take to comply with other federal, state, regional, and local plans and policies related to air resources and air quality:

SOLID AND HAZARDOUS WASTE SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **solid or hazardous waste** (see 301 CMR 11.03(9))? ___ Yes ___ X No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **solid and hazardous waste**? ___ Yes ___ X No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Historical and Archaeological Resources Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Solid and Hazardous Waste Section below.

II. Impacts and Permits

A. Is there any current or proposed facility at the project site for the storage, treatment, processing, combustion or disposal of solid waste? ___ Yes ___ No; if yes, what is the volume (in tons per day) of the capacity:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Storage	_____	_____	_____
Treatment, processing	_____	_____	_____
Combustion	_____	_____	_____
Disposal	_____	_____	_____

C. Is there any current or proposed facility at the project site for the storage, recycling, treatment or disposal of hazardous waste? ___ Yes ___ No; if yes, what is the volume (in tons or gallons per day) of the capacity:

	<u>Existing</u>	<u>Change</u>	<u>Total</u>
Storage	_____	_____	_____
Recycling	_____	_____	_____
Treatment	_____	_____	_____
Disposal	_____	_____	_____

C. If the project will generate solid waste (for example, during demolition or construction), describe alternatives considered for re-use, recycling, and disposal:

D. If the project involves demolition, do any buildings to be demolished contain asbestos?
___ Yes ___ No

E. Describe the project's other solid and hazardous waste impacts (including indirect impacts):

III. Consistency--Describe measures that the proponent will take to comply with the State Solid Waste Master Plan:

HISTORICAL AND ARCHAEOLOGICAL RESOURCES SECTION

I. Thresholds / Impacts

A. Is any part of the project site a historic structure, or a structure within a historic district, in either case listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___X___ Yes ___ No; if yes, does the project involve the demolition of all or any exterior part of such historic structure? ___ Yes ___X___ No; if yes, please describe:

B. Is any part of the project site an archaeological site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___ Yes ___X___ No; if yes, does the project involve the destruction of all or any part of such archaeological site? ___ Yes ___X___ No; if yes, please describe:

C. If you answered "No" to all parts of both questions A and B, proceed to the **Attachments and Certifications** Sections. If you answered "Yes" to any part of either question A or question B, fill out the remainder of the Historical and Archaeological Resources Section below.

D. Have you consulted with the Massachusetts Historical Commission? ___ Yes ___X___ No; if yes, attach correspondence.

E. Describe and assess the project's other impacts, direct and indirect, on listed or inventoried historical and archaeological resources:

See attached narrative.

II. Consistency -- Describe measures that the proponent will take to comply with federal, state, regional, and local plans and policies related to preserving historical and archaeological resources:

See attached narrative.

ATTACHMENTS:

1. Plan, at an appropriate scale, of existing conditions of the project site and its immediate context, showing all known structures, roadways and parking lots, rail rights-of-way, wetlands and water bodies, wooded areas, farmland, steep slopes, public open spaces, and major utilities. See Figure 1.
2. Plan of proposed conditions upon completion of project (if construction of the project is proposed to be phased, there should be a site plan showing conditions upon the completion of each phase). See Figure 1.3-1 in Appendix A.
3. **Original** U.S.G.S. map or good quality **color** copy (8-½ x 11 inches or larger) indicating the project location and boundaries See Figure 1.

- 4 List of all agencies and persons to whom the proponent circulated the ENF, in accordance with 301 CMR 11.16(2). See the Distribution List included in this package.
5. Other:

CERTIFICATIONS:

1. The Public Notice of Environmental Review has been/will be published in the following newspapers in accordance with 301 CMR 11.15(1):

(Name)

(Date)

Jamaica Plain Gazette

March 21, 2003

2. This form has been circulated to Agencies and Persons in accordance with 301 CMR 11.16(2).

3.18.03 And D. Brennan ——— 3/14/03 Lisa A. Standley
Date Signature of Responsible Officer Date Signature of person preparing
or Proponent ENF (if different from above)

Name (print or type) Andrew D. Brennan

Lisa A. Standley

Firm/Agency MBTA

Vanasse Hangen Brustlin, Inc. (VHB)

Street 10 Park Plaza

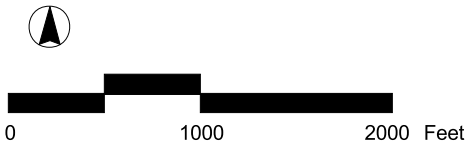
101 Walnut Street

Municipality/State/Zip Boston, MA 02116

Watertown, MA 02471

Phone 617-222-3126

617-924-1770



Source: USGS Quadrangles Newton, Boston South

Arborway Streetcar Restoration



Massachusetts
Bay
Transportation
Authority

Project Location

Figure 1

Distribution List

Ellen Roy Herzfelder, Secretary
Executive Office of Environmental Affairs
251 Causeway Street
Boston, MA 02115-2150

Executive Office of Environmental Affairs
Attn: Air Policy Analyst
251 Causeway Street
Boston, MA 02115-2150

Executive Office of Transportation and Construction (EOTC)
Attn: Environmental Reviewer
10 Park Plaza
Boston, MA 02116

Massachusetts Highway Department (MHD)
Public/Private Development Unit
10 Park Plaza
Boston, MA 02116

MHD – District #4
Attn: MEPA Coordinator
519 Appleton Street
Arlington, MA 02174

Massachusetts Aeronautics Commission (MAC)
Attn: MEPA Coordinator
10 Park Plaza, Rm. 6620
Boston, MA 02116-3966

Cara Metz, Executive Director
Massachusetts Historical Commission (MHC)
Massachusetts Archives Building
220 Morrissey Boulevard
Boston, MA 02125

Department of Environmental Protection (DEP)
Northeast Regional Office
Attn: MEPA Coordinator
205A Lowell Street
Wilmington, MA 01887

Department of Environmental Protection (DEP)
Attn: MEPA Coordinator
1 Winter Street
Boston MA 02108

Christine Kirby
Department of Environmental Protection (DEP)
1 Winter Street
Boston MA 02108

Steve McGoldrick, Deputy Director
Metropolitan Area Planning Council (MAPC)
60 Temple Place/6th Floor
Boston, MA 02111

Samantha Overton-Bussell
Metropolitan District Commission (MDC)
20 Somerset Street
Boston, MA 02108

Paul Regan, Executive Director
MBTA Advisory Board
60 Temple Place
Boston, MA 02111

Massachusetts Department of Public Health (DPH)
Attn: Director of Environmental Health
250 Washington Street
Boston, MA 02115

Department of Telecommunications and Energy
Attn: MEPA Coordinator
One South Station
Boston, MA 02110

Massachusetts Water Resource Authority
Attn: MEPA Coordinator
100 First Avenue
Charlestown, MA 02129

Mark Maloney, Director
Boston Redevelopment Authority (BRA)
One City Hall Square
Boston, MA 02201

State Representative Elizabeth Malia
Room 540
State House
Boston, MA 02133

State Representative Jeffrey Sanchez
State House
Boston, MA 02133

State Senator Dianne Wilkerson
Room 312-C
State House
Boston, MA 02133

Councilor John Tobin
Boston City Hall
5th Floor
1 City Hall Plaza
Boston, MA 02201

Councilor Robert Consalvo
Boston City Hall
5th Floor
1 City Hall Plaza
Boston, MA 02201

Councilor President Michael Flaherty
Boston City Hall
5th Floor
1 City Hall Plaza
Boston, MA 02201

Councilor Felix Arroyo
Boston City Hall
5th Floor
1 City Hall Plaza
Boston, MA 02201

Councilor Maura Hennigan
Boston City Hall
5th Floor
1 City Hall Plaza
Boston, MA 02201

Councilor Stephen Murphy
Boston City Hall
5th Floor

1 City Hall Plaza
Boston, MA 02201

Antonia Pollak, Commissioner
Environment Department
Boston City Hall -Room 805
1 City Hall Plaza
Boston, MA 02201

Ellen Lipsey, Executive Director
Boston Landmarks Commission (BLC)
Boston City Hall - Room 805
1 City Hall Plaza
Boston, MA 02201

John M. Auerbach, Director
Boston Public Health Commission (BPHC)
1010 Massachusetts Avenue
Boston, MA 02118

Boston Public Health Commission (BPHC)
Attn: John M. Auerbach, Director
1010 Massachusetts Avenue
Boston, MA 02118

Boston Transportation Department
Attn: Andrea d'Amato, Commissioner
Boston City Hall
Room 721
1 City Hall Plaza
Boston, MA 02201

Boston Public Library
Jamaica Plain Branch
433 Centre Street
Jamaica Plain, Boston MA 02130

Boston Public Library
Jamaica Plain Branch
12 Sedgewick Street
Jamaica Plain, Boston MA 02130

State Transportation Library
10 Park Plaza
Boston MA 02116

Project Description

The purpose of this document is to provide information to the public concerning the Arborway Streetcar Restoration Project in compliance with the Massachusetts Environmental Policy Act and regulations (301 CMR 11.00). In this document, the MBTA will describe the project, its history, the alternatives reviewed, and provide a framework for the analysis of impacts on the neighborhood and the existing MBTA system. Potential mitigation measures will also be identified.

1.1 Introduction

The Arborway Streetcar Restoration Project will restore Massachusetts Bay Transportation Authority (MBTA) Green Line service along a 2.2-mile corridor from the existing Green Line Heath Street Station along South Huntington Avenue, Centre Street, and South Street to the MBTA Forest Hills Station and will include a new maintenance facility at the corner of Washington Street and the Arborway. The project will provide light rail service along this corridor, with new tracks, American with Disabilities Act (ADA) compliant stations, a new power substation, a maintenance facility, and the appropriate overhead contact systems, signals, lighting, and station amenities.

The Arborway Streetcar Restoration project is part of a comprehensive program to achieve a series of broad transportation and development goals, as well as specific objectives for improving the quality of transportation services and the equity of the distribution of services within the urban core. The broader goals and objectives, adopted at state and regional levels, support a long-term development and transportation strategy for the Boston metropolitan region. The MBTA's first intent is to restore light rail service that is compatible with other land use and transportation uses in the corridor, improve air quality, maintain public safety, increase transit usage, preserve local businesses, and promote efficiencies. The MBTA seeks to improve transit services to the Jamaica Plain neighborhoods, businesses, and other facilities along the corridor by providing a convenient, comfortable ride between the corridor and downtown Boston.

The Arborway Corridor project requires review under the Massachusetts Environmental Policy Act (MEPA) because it is “construction of a new rail or rapid transit line along a new, unused, or abandoned right-of-way” (301 CMR 11.03(6)(a)5). The project requires the filing and public review of an Environmental Notification Form (ENF) and Environmental Impact Report (EIR).

In accordance with MEPA regulations at 301 CMR 11.06(8), the MBTA has filed this Expanded Environmental Notification Form (EENF) and requests that the Secretary allow preparation of a Single EIR. This EENF meets the requirements of these regulations and provides:

- An analysis and description of all aspects of the project and all feasible alternatives
- A detailed baseline in relation to which potential environmental impacts and mitigation measures can be assessed
- A demonstration that the planning and design of the project use all feasible means to avoid potential environmental impacts.

1.2 Project Purpose

The Arborway Green Line Restoration project addresses needs in the following areas:

1. Providing high quality alternative transportation services
2. Providing reductions in air quality impacts from single occupant vehicles.
3. Providing compliance with the requirements of 310 CMR 7.36

Transportation Improvements:

The Arborway Green Line Restoration project is part of a comprehensive program to achieve a series of broad transportation and development goals, as well as specific objectives for improving the quality of transportation services and the equity of the distribution of services within the urban core. The broader goals and objectives, adopted at state and regional levels, support a long-term development and transportation strategy for the Boston metropolitan region. The specific elements of the purpose and need of the project, include:

- a) The need to provide additional transit capacity into downtown Boston to support the regional objective of maintaining an economically strong urban core that is not dependent upon automobile access.

- b) The need to support regional commitments to certain transit system improvements in order to comply with state air quality strategy plans.¹
- c) The importance of maintaining equitable distribution of transportation services across the metropolitan area, so that all residents have access to employment, cultural activities, educational institutions, and other opportunities.
- d) The need to support regional mobility and environmental goals through cost-effective transportation measures. Cost-effectiveness is an important element in achieving environmental and transportation objectives as well.

The Arborway Green Line Restoration project has been found to support these regional objectives, and is projected to have regional benefits to the metropolitan transportation system, and in support of regional land use, economic and environmental goals. These benefits have a significant value to the region as a whole and to the Jamaica Plain community in particular. With the light rail alternative, these benefits can be realized with far fewer negative impacts than other approaches to achieving the mobility benefits, such as constructing new highways and downtown parking garages. Nevertheless, the potential undesirable impacts to the corridor are a concern that must be addressed to the extent feasible, according to state environmental law.

Air Quality Improvements and Compliance with 310 CMR 7.36:

Certain pollutants related to emissions from transportation sources are regulated by the U.S. Environmental Protection Agency (EPA) across the country. These include: carbon monoxide (CO), hydrocarbons (HC), oxides of nitrogen (NOx), and particulates. Hydrocarbons (sometimes referred to as “volatile organic compounds,” and NOx are produced by motor vehicles and contribute to smog. A major component of smog is ozone (O₃), which can be measured directly and is used as the indicator of regional air quality. Some other pollutants, such as sulfur dioxide, may be found in vehicle exhaust, but overall, transportation sources do not contribute significantly to this pollutant.

The Commonwealth of Massachusetts, in accordance with federal law, has produced a plan to bring the air quality in the eastern part of the state into compliance with federal air quality standards. This “State Implementation Plan” (SIP) considers all sources of air pollution, including stationary sources and transportation sources, and identifies measures to reduce emissions. The Arborway Green Line Restoration project is identified in the SIP as one of the state’s initiatives to reduce air pollution to achieve these standards. As determined by the SIP, the level of ridership on public



¹ See the Massachusetts State Implementation Plan for Air Quality.

transportation services is the chief measure of the project's contribution to regional air quality goals.

The Arborway Green Line Restoration project helps achieve air quality objectives in a number of ways. First, it diverts specific commuting trips from automobiles to transit, resulting in substantial reductions of emissions of key pollutants for those particular trips. Secondly, restoration of the Green Line to Arborway will result in the elimination of the Route 39 bus, which generates 2100 bus vehicle miles traveled along the corridor each day. Further, as part of a regional transit program, it helps to support land use patterns and travel habits that result in reduced automobile travel, which extends well beyond the specific commuting trips that are diverted to the MBTA transit system.



1.2.1 Project History

In December 1985, light rail service was suspended to Forest Hills Station along the MBTA's E Line to accommodate the new light rail Green Line fleet and the repavement of Huntington Avenue. By 1989, Green Line service was restored as far as Heath Street and the remainder of the corridor was serviced by the Route 39 Bus, which currently runs from Forest Hills Station to Back Bay Station via Copley Square. The trolley service extension south of Heath Street was delayed due to several issues, including: complexity of meeting the requirements of the ADA and the Architectural Access Board; the new Green Line fleet's need for an increased power infrastructure; the effect of the 1987 construction of the Orange Line on the Arborway transit market; and a lack of consensus on the roadway reconstruction plan.

In 1991, the Massachusetts Department of Public Works (now Massachusetts Highway Department) submitted to the Department of Environmental Protection a reconstruction certification for the Central Artery, third harbor Tunnel (CA/T) project. On July 8, 1991, the DEP conditionally accepted the Preconstruction Certification for the CA/T project and required measures to mitigate potential adverse air quality impacts for the CA/T project and to meet the criteria for project certification.

In 1992, the Department of Environmental Protection promulgated a series of regulations, which among other objectives, were designed to improve air quality and reduce automobile congestion. These regulations were promulgated as part of the State Implementation Plan (SIP) to achieve state compliance with the Clean Air Act Amendments of 1990. The regulations include a series of transit improvements that the Commonwealth would make throughout the MBTA's service region. These regulations (310 CMR 7.36) explicitly incorporate the measures required as part of the CA/T certification, and add additional public transit improvements. Restoration of Arborway Green Line is among the additional transit improvements listed in the SIP. The regulations state: *"The Executive Office of Transportation and Construction*

(EOTC) shall plan and construct and render available for public use, transit system improvement projects including the following projects in accordance with the schedules set forth in 310 CMR 7.36: (d) Before December 31, 1997 construction of the following facility shall be completed and opened to full public use: Green Line Arborway Restoration. ”

In 1994, approval for these transit commitments, was issued by the U.S. Environmental Protection Agency (EPA) in 40 CFR Part 52 (MA-24-1-6557) as part of the State Implementation Plan (SIP).

In 1997, the MBTA sought and received a three year extension of the 1997 deadline, extending the SIP deadline to 2000. During this extended period, the MBTA conducted several streetcar restoration feasibility studies along the Arborway corridor and determined the restoration of light rail service would be infeasible. In 1998 the MBTA petitioned the Department of Environmental Protection (DEP) to substitute bus service for the Green Line Restoration in accordance with the procedures at 310 CMR 7.36(4). In this petition, the MBTA argued that improved bus service, using 60-foot articulated Compressed Natural Gas (CNG) would achieve equivalent transit and air quality improvements as compared to the light rail restoration.

DEP determined that the EOTC had not made its case that the original commitment of light rail service was infeasible due to engineering, environmental or economic considerations, as is required under substitute provision of 310 CMR 7.36 (4)(a)(1) and requested additional information to support EOTC's position.

On September 1, 2000, the DEP and EOTC entered into an Administrative Consent Order (ACO) designed to reconcile certain completion dates for projects that were requirements under the SIP and also commitments of the CA/T project. As part of the ACO, DEP required EOTC to conduct a public and community involvement process for the purpose of scoping and reviewing a revised infeasibility determination, and to submit that determination to DEP for review pursuant to 310 CMR 7.36 (4).

On June 15, 2001, EOTC submitted the Arborway Infeasibility Analysis. This analysis concluded that while it was not impossible to restore light rail service to the Arborway, the restoration would be accompanied by adverse impacts including:

- Public safety and the ability of emergency response vehicles to maneuver in the corridor
- Loss of parking, and associated community and business impacts,
- Reduction in service along other branches of the Green Line

In addition, the Arborway Infeasibility Analysis includes further information regarding the proposed substitute project (60-foot CNG buses) and their associated

transportation, neighborhood and environmental impacts and benefits, as well as the comparative costs of the two proposals. These studies, as well as the testimony of the Arborway Committee before DEP on these studies, are being submitted to MEPA as Technical Appendices to this EENF. The studies are also available for review by the public on the MBTA website at www.mbta.com.

On November 7, 2001, DEP determined that the EOTC's Arborway Infeasibility analysis did not meet the standard of infeasibility under the regulation; that is, DEP determined that there were not sufficient environmental, economic or engineering considerations that would render the project infeasible. DEP declared Arborway Green Line restoration to be feasible (see Appendix D). The MBTA was required to proceed with restoration as mandated.

In December 2001, the MBTA informed DEP that it would, based on DEP's determination, move forward with the design and implementation of the Arborway Green Line project. Since then, the MBTA has conducted an extensive public involvement program and has advanced the design of the project to a level that supports this EENF.

1.3 Project Description

This section provides a general description of existing physical and transportation conditions along the Arborway corridor, and a detailed description of the proposed Arborway Streetcar Restoration Project.



1.3.1 Corridor Description

The dense, culturally diverse, urban corridor is a 2.2-mile extension of the Green Line's "E" branch from Heath Street along South Huntington Avenue, Centre Street, and South Street to the Forest Hills Station and Arborway maintenance facility between Washington Street and Arborway (Figure 1.3-1A-E). Section 3.6 of this EENF provides a detailed description of the population and land uses along the corridor.

The corridor has narrow street widths, on-street parking, rail tracks, and five bus service lines. The curb-to-curb measurements range from as narrow as 40 feet along South Street to 42 feet along Centre Street. At its widest area along South Huntington Avenue, the corridor is 54 feet. Throughout the 2.2-mile corridor, there are 8-foot parking lanes and 8-foot sidewalks on both sides and one travel lane in each direction (Figure 1.3-2). By comparison, Huntington Avenue, which accommodates light rail vehicles in mixed traffic, is approximately 60 feet curb to curb at the Mission Park Green Line stop.

Train tracks are still present on South Street and Centre Street and end at the junction of Centre Street and South Huntington Avenue. In the fall of 2000, South Huntington Avenue received a new pavement overlay that covered the existing tracks.

There is on-street parking on both sides of the street throughout the corridor. The adjacent land use varies from segment to segment, as do the characteristics of parking in terms of demand, regulation, and need of users. Parking demand is heavy throughout the day, with significant turnover in the commercial districts. Although meters are absent, 2-hour parking restrictions are in place in many segments of the corridor. Section 3.1-4 of this EENF provides a detailed analysis of existing parking conditions within the corridor.

There are currently 4 bus lines operating in the Arborway corridor (Figure 1.3-3).

- Route 38 - Wren St. - Forest Hills Station via Centre and South Streets
- Route 39 - Forest Hills Station to Back Bay Station via Huntington Avenue
- Route 41 - Centre and Eliot Streets - JFK/UMass Station via Dudley Station, Centre Street, and Jackson Square Station
- Route 48 - Jamaica Plain Monument Loop – Jackson Square Station via Green Street (Monday - Saturday service)

During peak periods, the Route 39 bus provides service on approximately 4-minute headways from Forest Hills to Back Bay Stations (Figure 1.3-4), and is the bus extension of the Green Line service to Heath Street. Upon completion of the streetcar Restoration Project, all of the bus routes will stay in service except for the Route 39 bus, because trolley service will then be provided from Forest Hills Station to downtown Boston.

The Orange Line also serves the corridor and runs in the Southwest Corridor from downtown Boston to the Forest Hills Station, with a stop at the Ruggles, Roxbury Crossing, Jackson Square, Stony Brook, and Green Street stations, approximately 0.5 miles east of the Arborway corridor. The Orange Line has headways ranging from 5 minutes during rush hour to 8 minutes midday and 13 minutes in late evening. The MBTA is designing and implementing an Orange Line signal improvement project designed to maximize the efficiency and minimize service interruptions on the Orange Line. This project will improve headways, and therefore, service, on the Orange Line.



1.3.2 Light Rail Transit Vehicles

The MBTA currently uses double-ended articulated light rail vehicles for their Green Line service and anticipates bringing new low-floor accessible vehicles into the

service over the next several years. The new station platforms will be designed to accommodate the new low-floor light rail vehicles (LRV).

LRVs range from 8 feet 8 inches to 8 feet 10 inches wide and 74 feet long (72 feet plus one foot for coupling on each end of the vehicle) and has a design load capacity of 201 passengers. The two low floor doors are located approximately 18 feet from each end of the trolley. The initial MBTA operation of this Green Line extension assumes a two-car consist, which will be a mixture of high- and low-floor light rail vehicles, totaling 146 feet in length. In comparison, the diesel buses operating along the corridor are 40 feet long, 8 feet 5 inches wide, with the MBTA design load capacity of 56 (40 seated) passengers.

The Route 39 bus service is the most heavily used bus route in the MBTA system, servicing approximately 17,500 passengers during an average weekday². Light rail vehicle ridership and cost projections along the corridor will need to be re-evaluated since trolley service has been absent from Heath Street to the Forest Hills/Arborway Station for 17 years, and several factors have changed along the corridor. The MBTA's 2001 Arborway Alternatives Analysis Final Report estimated that the Arborway Streetcar Restoration would result in 18,750 passenger daily trips between Forest Hills and Heath Street.



1.3.3 Overhead Contact System/Lighting

Power for the LRV system on the Arborway corridor will be provided by an overhead contact system (OCS). The OCS will be developed to minimize the visual impact of the conductors on the surrounding environment while providing an adequate level of power to support LRV operation. A simple system consisting of a single trolley wire supplemented with dual bare aerial feeders will be used to provide power to the LRVs. This system is consistent with that on the remainder of the Green Line surface routes and is recognized worldwide as the preferred alternative for street-running operations. The use of a single contact wire, combined with small, unobtrusive insulators and support elements, and cross-span construction will minimize the visual impact of the OCS.

Existing OCS poles will need to be replaced with new OCS poles. The supporting poles will be designed to create uniformity and consistency of the streetscape throughout the corridor. The standard colors of black or dark green are designed to reduce and mitigate visual impacts. Ornamental base shrouds and finials will be provided to mask the ground line of standard OCS poles. These treatments provide eye level beautification of the OCS structures. The typical pole spacing will be 100 feet, although spacing on curves will be 75 feet or tighter depending on the radius.



² Sources: MBTA Service Review, Route 39, October 1996 and MBTA 1995 Systemwide Passenger Survey



1.3.4 Track

The existing tracks along the corridor will be removed and replaced with a new track structure. The existing track structure will be removed by cutting the existing pavement on either side of the existing track. The existing pavement outside of the track structure will remain in place and will be used to maintain traffic during construction. Once the existing track structure is removed, new subgrade material, ties, track and pavement will be installed and the existing pavement outside the track structure will receive a new pavement overlay. The new track alignments along the corridor will consist of 2 tracks, inbound and outbound, constructed within the roadway travel lanes. The 2 tracks will be typically spaced 10 feet 6 inches apart on South and Centre Streets and 15 feet 6 inches apart on South Huntington Avenue (see Figure 1.3-5).

The track alignment will shift slightly at each station location to align the trolley with the platform in order to be ADA compliant. The proposed track design will conform to the applicable MBTA Green Line design standards and other industry standards for street trolley service.

Work anticipated within the street layout includes a new full-depth pavement structure within the limits of the new track installation area, patching utility trenches, and placing a new bituminous concrete pavement overlay for the full width of the roadway.



1.3.5 Utilities

The existing traction power system, which formerly provided electric power to the old Arborway Line cars, does not provide adequate power to the new MBTA LRV fleet since the current fleet is much heavier and is equipped with additional amenities such as air conditioning. The small cables do not have the capacity for the power needed to operate the current Green Line fleet and major traction power work would be necessary to upgrade the systems for the current MBTA light rail vehicles.

Three alternatives for sufficient power were considered for the new trolley service: power from the MBTA Stony Brook Substation, power from the MBTA Roxbury Crossing Substation, or a new Substation. The MBTA Stony Brook Substation is approximately a mile east of the Arborway Line and currently has no duct bank to the corridor. The MBTA Roxbury Crossing Substation is more than 0.5 miles east of the corridor, but has an existing duct bank length that would cause an unacceptably high voltage drop and would also impact train performance, aggravate stray current corrosion, and require excessive cable maintenance. Therefore, a new substation

between Heath Street and the Forest Hill Station will be necessary to meet the power requirements. The exact size and location will be determined through a power simulation that will be conducted at a future stage of this project. The substation would be a small, one story, building approximately 40 feet by 25 feet. Several alternative sites along or in close proximity to the corridor are being evaluated, including the Heath Street loop (the preferred location). The EIR will provide a detailed evaluation of alternative power station locations.

Existing underground utilities along the corridor include drainage, water, sewer, cable, electric, gas and telephone. Utility relocations will likely be required at isolated locations such as new stations. Specific locations and the extent of the relocations will be coordinated with the utility companies during subsequent design phases. Drainage modifications will be required at the proposed station platform areas and at several intersections. The modifications will include installing new catch basins and manholes and adjusting existing structures to efficiently collect stormwater runoff and prevent ponding. The drainage structures will conform to the latest standards of the Boston Water and Sewer Commission.



1.3.6 Stations

Based upon community participation process, the proposed station locations have been discussed openly since last fall, and agreed upon by the Arborway Rail Restoration Advisory Committee (ARRPAC), the MBTA, the City, and the public. The consultant began in September with the presentation of two concepts for trolley stops along the corridor: either curbside or “bulb-out” trolley plaza. Center of the street was ruled out early on because there is not enough width for a protected right-of-way.

In October 2002, the consultant began the discussion of the stations locations by proposing six possible stations locations, in addition to Heath Street and Forest Hills Stations. As the ARRPAC members, consultant team and MBTA and others discussed the specific siting criteria:

- ¼ quarter mile spacing between stations
- Even distribution of stations stops from Back of the Hill to Forest Hills
- Avoid impacts to emergency and public safety vehicles and operations
- Proximity to elderly housing, independent living, and assisted living housing complexes
- Proximity to high ridership bus stops
- Locating stops which would limit impacts to existing driveways
- Accommodation of the platform length for two car trains (enabling access to either vehicle)
- Locations near medical institutions

The number of stations suggested was increased to thirteen. As the safety, bicycle safety, parking, loading zone, emergency vehicles and other criteria were factored in, the community worked diligently to agree about the proposed station stops along the corridor.

Three more meetings (October 16, 2002, November 6, 2002, and November 20, 2002: see Appendix C for meeting minutes) followed which continued at length the discussion of the proposed stations locations and the final outcome of eight proposed stations locations.

Two public meetings (one on December 18, 2002 and the second on February 3, 2003) were also held which focused on the discussion of proposed station locations.

As a result of consensus reached during this public process, eight station locations are proposed (Figure 1.3-1A-E), in addition to the Forest Hills Station. Each station consists of a platform for the inbound and outbound trolleys.

**Table 1.3-1
Proposed New Station Locations**

Forest Hills	Moraine/Boylston
Child Street	Perkins Street
Monument	Bynner Street
JP Center	VA Hospital
Beaufort Road	

Station platforms are slightly higher than the sidewalk level, but will be designed to appear as an integral part of the sidewalk. The cross slope and grading of the existing sidewalks will be modified to allow for the transition in curb height from 6 inches existing to 8 inches required for the ADA compliant stations. The typical station design will conform to ADA requirements including proper clearances, paths clear of obstructions and an 8-inch curb height above the rail to allow ADA access to the MBTA's low-floor LRVs.

Stations will be a "trolley plaza" design consisting of curb alignment that widens the sidewalk area, extending across the parking lane to the edge of the travel lane and, in some cases, eliminating public parking spaces in the area (see Figure 1.3-5). The plaza essentially brings the station platform to the track alignment within the travel lane. A center-island option was considered (bringing light rail vehicles to the existing curb, rather than extending the curb to the tracks) but rejected due to conflicts with existing utilities in the streets and the constraints posed by the narrow street width. A curbside station will be constructed at one location (Monument outbound).

The stations will be a minimum of 138 feet long depending on physical constraints such as driveways and side streets. This platform length will provide ADA

accessibility to the LRV, whether the MBTA operates this segment of the Green Line with low-floor vehicles as one or both cars in the consist.

The stations may also include amenities such as canopies, trash receptacles and vending machines. The canopies will serve both as shelter and as the station identifier. Canopy dimensions will vary depending on site-specific conditions, such as street width. Fare collection at stations along the corridor would be at the right front door of the vehicle, if required.



1.3.7 Maintenance Facility

In accordance with an April 24, 2001 Memorandum of Understanding (MOU) between the City of Boston and the MBTA, the proposed maintenance facility will be on a MBTA owned 0.8-acre lot near the Forest Hills station located on the corner of Washington Street and the Arborway. A new MBTA bus maintenance facility, the Arborway Bus Transit Facility, will be located on the adjacent MBTA owned parcel of land and is being designed under a separate project. The bus facility (EOEA No. 12898) has been reviewed by the MEPA Office and a final Certificate issued.

The LRV maintenance facility will consist of two tracks with a small building structure for vehicle maintenance and storage. The size of the LRV maintenance facility depends on the number of streetcars requiring storage. Some track work is already in place at the proposed maintenance facility site, but would need to be replaced to accommodate the new streetcar service. Requirements for the proposed maintenance facility will be identified and assessed, and presented in the EIR, based on the service plan and Green Line Operations.



1.3.8 Operating Plan

The operating plan is currently under development. Constraints include operations of the existing Green Line system, which must be integrated with this service extension. A streetcar simulation will be done in later stages of this project to determine the travel time along the corridor. An operating plan, including headways and dwell times at stations, will be developed and presented in the EIR.



1.3.9 Cost

Preliminary cost estimates have been developed for the project, which will be refined and reevaluated during subsequent design stages. The project is currently estimated to have a total cost of \$58 million, which includes \$45.5 million in construction costs,

\$5 million in design costs, \$800,000 for construction mitigation, \$400,000 for real estate acquisitions (primarily temporary easements and permanent utility easements) as well as \$6.3 million in Project Administration, Indirect Costs, Inspections, Force Accounts, and Project Contingency. In addition, the MBTA is determining whether or not, and to what extent additional Green Line vehicles are required for the service. If vehicles are needed, each Green Line vehicle is an additional \$2.5 million. In addition, the MBTA would spend approximately \$5 million in procurement phase design services for these vehicles. MBTA Operations Department estimates that 13 vehicles are required to run the Arborway Service. The MBTA is determining whether these vehicles would be over and above the MBTA's current fleet projections. If all 13 were beyond the MBTA's fleet plan, the project would incur an additional \$37 million in costs, for a total project cost of \$95 million

1.4 Public Participation

Public participation has been very active since service was suspended from Heath Street to Forest Hills Station in December 1985. In 1986, several advocacy groups formed to support the return of Arborway Green Line service. The Jamaica Plain Neighborhood Council was one organization advocating the restoration of service that held several council votes from 1987 to 2001, all resulting in the support of the Green Line service along the corridor. Several websites serve as a forum for interested citizens to discuss their opinions and local newspapers provided continuous coverage. In May 2002, the ARRPAAC, an official body, was formed by the MBTA to represent the community's interests during the planning and construction of the light rail Restoration Project. The ARRPAAC committee is comprised of citizens, business owners, community leaders, project planners, and city and state officials.

The public participation process is in place to identify the concerns and objectives of the local communities. Community concerns and objectives will be identified for incorporation into the final design and operations of the streetcar restoration along the Arborway Corridor. Workshops have been held regularly with the ARRPAAC in Jamaica Plain since August 2002 and are ongoing. The purpose of these meetings is to address community concerns and generate recommendations for station location, traffic, parking, noise, lighting, landscaping, and other mitigation through the Arborway corridor. Appendix C provides a list of ARRPAAC members and ARRPAAC meeting minutes.

1.5 Permits and Approvals

The Arborway Streetcar Restoration Project may require issuance of a Curb Cut Permit from the Metropolitan District Commission (MDC) if a new curb cut to the Arborway is needed for access to the proposed maintenance facility. Excavation and removal of material from the street system may require compliance with the

Massachusetts Contingency Plan (MCP) administered by the DEP. No state permits or approvals, other than MEPA review and review by the Massachusetts Historical Commission, are required. There are no impacts to natural resources, and therefore no permits or approvals from the Conservation Commission or DEP are needed. The project will also require that a Notice of Intent be filed with EPA prior to construction, to obtain coverage under the NPDES General Permit for Stormwater Discharges associated with construction activities.

2

Alternatives Considered and Rejected

The MBTA has investigated a wide range of transit alternatives within the Arborway corridor since the original service was discontinued in 1985 for reconstruction of the Huntington Avenue portion of the corridor. This chapter summarizes these alternatives analyses and the rationale for the selection of the proposed action.

2.1 Project Purpose

The Massachusetts Air Pollution Control Regulations (310 CMR 7.36) establish that the EOTC must restore the Green Line Arborway service unless DEP determines that the project is infeasible due to adverse environmental, engineering or economic impacts. If the project is determined to be infeasible, EOTC must provide a substitute project that achieves equal or greater emissions reductions of nonmethane hydrocarbons, carbon monoxide (CO), and nitrogen oxides (NOx) in the same corridor, and provides greater improvement in air quality for CO and NOx in both the short and the long term. These regulations establish the principal criteria for the evaluation of project alternatives.

2.2 Draft Arborway Transit Study, 1987

In 1987, the MBTA investigated alternatives for improving transit service along the Arborway corridor that would improve service reliability and reduce operating and maintenance costs. (*Draft Arborway Transit Study, November 1987*, prepared by TAMS). This study was prepared following the temporary discontinuation of the Arborway streetcar service in 1985 and the restoration of rapid transit service on the Orange Line in the Southwest Corridor, in close proximity to the Arborway corridor. This study evaluated eleven alternatives:

- No-Build (restoration of previous E-line service)
- Streetcar service from Park Street to Forest Hills, using upgraded equipment and operations
- Streetcar service from Park Street to Heath Street, with bus service from Forest Hills to Copley Square
- Streetcar service from Park Street to Brigham Circle, with bus service from Forest Hills to Copley Square
- Streetcar service from Park Street to Heath Street, with bus service from Forest Hills to Heath Street
- Streetcar service from Park Street to Heath Street, with bus service from Forest Hills to the Longwood Hospital area
- Streetcar service from Park Street to Heath Street, with bus service from Forest Hills to Ruggles Station
- Streetcar service from Park Street to Brigham Circle, with bus service from Forest Hills to Ruggles Station
- Streetcar service from Park Street to Heath Street, with bus service from Forest Hills to Ruggles Station via the Longwood Area
- Streetcar service from Park Street to Brigham Circle, with bus service from Forest Hills to Ruggles Station via the Longwood Area
- Streetcar service from Park Street to Heath Street, with bus service from Forest Hills to Heath Street and to Jackson Square Station on the Orange Line
- Streetcar service from Park Street to Heath Street, with bus service from Forest Hills to Heath Street, with a reduced fare for transfer between the bus and streetcar system.

Evaluation of these alternatives was based on an analysis of passenger impacts (service, costs, accessibility), impacts to the MBTA system, impacts to neighborhoods, noise, air quality, and economic development potential. The analysis concluded that the restoration of streetcar service would result in the highest ridership because it would have the lowest travel time and require fewest transfers, although it would have the highest operating and capital costs. The alternative providing streetcar service between Park Street and Brigham Circle, with bus service from the Forest Hills Station to Ruggles Station, would have the lowest costs and highest passenger revenues.

2.3 The Arborway Study, 1999

In 1999, the MBTA conducted a new analysis of alternatives for transit service within the Arborway corridor (*The Arborway Study, Final Report, January 1999*, prepared by LSTS, Inc.). This analysis looked only at service alternatives between Heath Street and Forest Hills, because Green Line E-Line service had been restored to Heath Street at this date. Goals of the analysis were established as achieving regional air quality standards; increasing the use of alternatively fueled vehicles; maintaining public safety; increasing transit usage; preserving local business; developing an operationally-effective solution; and complying with the Americans with Disabilities Act.

Seven alternatives were studied:

- Base Case – electric light rail vehicle service
- 1991 SIP Base Condition – standard 40-foot diesel bus service, 7-minute headways
- No-Build Alternative – standard 40-foot diesel bus service, 4-minute headways
- Standard 40-foot Compressed Natural Gas (CNG) bus service
- Articulated 60-foot diesel bus service
- Articulated 60-foot CNG bus service
- Electric trackless trolley service

The alternatives analysis concluded that the Base Case (Light Rail Restoration) would fail to meet many of the goals established for Arborway replacement service. Although this alternative would achieve the 1991 SIP targets, the base case would reduce ridership, eliminate a substantial number of on-street parking spaces, delay traffic, and reduce the performance of the E Line. The No-Build Alternative did not meet the MBTA's commitment to alternatively fueled vehicles, and did not meet projected ridership needs. The study recommended CNG bus service, using standard 40-foot buses, as the preferred alternative.

The Department reviewed the report and found that it needed additional information to determine if the project was feasible. The Department provided the MBTA with additional direction in its Administrative Consent order of September 2001.

2.4 Arborway Alternatives Analysis, 2001

In response to the Administrative Consent Order between DEP and EOTC, the MBTA conducted an expanded alternatives analysis to more fully identify the characteristics of a substitute project and compare that project to light rail restoration (*Arborway Alternatives Analysis, Final Report, June 2001*, prepared by SYSTRA in association with CTPS). In conjunction with this study, 4 public meetings were held that involved the community in the process of clarifying the conceptual design and

associated impacts of light rail service as well as the basis for comparing light rail service to CNG bus service. The 2001 Arborway Alternatives Analysis compared 2 alternatives for improving service between the Arborway corridor and downtown Boston:

- Light rail service between Forest Hills and Park Street
- Compressed Natural Gas bus service (60-foot articulated bus) between Forest Hills and Park Street

The study noted that the light rail alternative posed significant engineering challenges to design and recommended constructing the service in a way that allows safe implementation of the desired level of service. The CNG bus service would avoid or reduce these impacts, and would add system capacity through the use of higher-capacity articulated buses. The light rail alternative would have additional impacts on Green Line system operations and have a higher implementation cost.

The study concluded that the 2 alternatives could equally achieve air quality standards, and would have roughly equivalent numbers of transit trips. The study also concluded that the light rail alternative would adversely affect the character and use of the street system during construction and after implementation. EOTC petitioned DEP to find that the Arborway Restoration was infeasible and to accept CNG service as a substitute project for the restoration of Arborway streetcar service. DEP's analysis focused on whether EOTC demonstrated that the Arborway project was "infeasible" within the criteria of the transit regulations, and whether the substitute project would achieve equal or greater emission reductions of nonmethane hydrocarbons, carbon monoxide, and nitrogen oxides. In a letter dated November 7, 2001, DEP found that the restoration of Arborway light rail service was not infeasible based on engineering, environmental or economic constraints, and that it would not result in economic impacts that would make it infeasible. DEP therefore required the EOTC to proceed with design and construction of the Arborway Streetcar Restoration Project.

2.5 Summary and Conclusions

As required by the DEP, the restoration of Arborway Streetcar Service as the extension of the Green Line E Line service from the Heath Street Station to the Forest Hill Station has been selected as the Proposed Action. This alternative is consistent with DEP Air Quality Regulations and SIP for air quality conformance, as well as the ACO and DEP ruling of November 7, 2001. The MBTA believes that no additional alternatives analysis is necessary in the EIR due to the extensive prior analyses of transit alternatives within the Arborway Corridor. These prior alternatives analyses were subject to a substantial public involvement process.

Existing Conditions

MEPA requires a review of the potential impacts of the project on the corridor, to establish that potential impacts are mitigated. This chapter addresses the existing transportation environment, existing noise conditions, vibration characteristics, air quality, cultural resources, and the socioeconomic environment within the Arborway corridor. The analysis of existing conditions and impacts (see Chapter 4) focuses on those aspects of the human and natural environment that may be affected by the restoration of Arborway streetcar service. There are no other natural resources (wetlands or waterways, natural vegetation, wildlife habitats) that may be affected by the project, and no infrastructure (water supply, wastewater, energy) that may be affected, although some minor utility relocations may be required. The project will not require the acquisition or change in use of land or property, except possibly for a new substation.

3.1 Transportation

This section describes the proposed study area, existing traffic and parking conditions within the Arborway corridor.



3.1.1 Study Area

The primary study area corridor (Figure 3.1-1) extends along South Huntington Avenue, from its intersection with Huntington Avenue to Centre Street. The study area corridor continues to the south along Centre Street to South Street, and then along South Street to the Arborway and the Forest Hills Station. The entire study area falls within the City of Boston (Jamaica Plain). While the LRT restoration will begin at Heath Street, the proposed study extends to Huntington Avenue. This will allow a comprehensive evaluation of traffic impacts along the corridor and provide information critical to the design of a coordinated vehicle/trolley signal system.

A variety of land uses exist along this corridor including institutional, commercial, park and recreational, and residential. While land uses are mixed, each section of the corridor is primarily defined by one of these three land use types. The South Huntington Avenue portion is dominated by institutional uses including Angell Memorial Hospital, the VA Hospital and the Department of Veteran Affairs. The

Centre Street portion consists primarily of business and commercial uses, with some churches and schools. The commercial areas extend along South Street where a more residential mix is evident. This variety of land use presents a corridor with a multitude of traffic and parking issues and potential concerns.

The study area defined above will experience the primary impacts to travel time, delay, parking and level-of-service (LOS) associated with the restoration of streetcar service. The primary study area corridor is between two other principal north-south corridors, the Jamaicaway to the west and Washington Street to the east. The proposed study area is confined to the corridor defined above. An expansion of the primary study area to include the adjacent corridors of Washington Street and the Jamaicaway, and the identification of potential secondary impacts associated with restoration of LRT service, has not been proposed and is not warranted for the following reasons:

Traffic Composition

It is believed that the present traffic composition along the primary study area corridor consists of a high percentage of vehicles having either an origin and/or destination within the corridor. This is evidenced by a relatively balanced hourly directional distribution, most notably in the Centre and South Street sections. Travel routes which serve primarily as commuting routes typically reflect a much more pronounced directional distribution by peak period. Because much of the corridor traffic is local, rather than through or commuter traffic, the potential for major short-term (construction-related) or long-term (as a result of reintroduction of trolley service) diversion of traffic to alternate routes is limited.

Desirable Alternate Routes

In addition to the limited potential for traffic diversion due to traffic composition, the lack of viable, alternate routes will also reduce the effects of anticipated increased travel time and delay on adjacent roadways. The two most likely alternate routes, the Jamaicaway and Washington Street, do not provide the available capacity during peak periods to be able to effectively process additional, diverted traffic from the project corridor. The Jamaicaway is restricted to passenger vehicles and does not allow truck traffic. This will further deter existing traffic within the proposed study area from seeking alternate routes in the short (construction-related), or long-term.

System Integration

The design and implementation of an efficient control system, integrating both vehicle operation and trolley service, will be the most effective deterrent to long-term traffic diversion to alternate, adjacent roadways. Proper station location and number, coupled with a signal strategy designed to reduce, as much as possible, the associated increase in delay at signalized intersections will minimize the overall impact to corridor travel time and the desire to seek alternate routes (thereby impacting vehicle operations along the Jamaicaway and Washington Street). This, in conjunction with the

lack of attractive, alternate routes and the composition of existing corridor traffic, should reduce the amount of diverted traffic to insignificant levels.

Based on these reasons, the primary corridor for analysis detailed in this report is defined by South Huntington Avenue, Centre and South Streets, and extends along the Arborway and New Washington Street to the Maintenance Facility. This corridor is composed of two-way, undivided streets (i.e., no median). In general, the corridor serves as an urban arterial/collector providing access to and from adjacent land uses. The street width provides on-street parking for these land uses. Additional parking information is presented in more detail in subsequent sections.

The widest curb-to-curb section within the primary study area corridor is along South Huntington Avenue, from Huntington Avenue to Centre Street. This section provides an approximately 50- to 56-foot curb-to-curb width with on-street parking along both sides and two wide travel lanes (one per direction). Centre Street provides a 40- to 45-foot curb-to-curb pavement width, with on-street parking along both sides and two travel lanes (one per direction). South Street provides a maximum 40-foot curb-to-curb pavement width, also with parking on each side and one travel lane per direction. Sidewalks of varying width (8-foot typical) are provided along both sides of the street the entire length of the corridor.

The side streets primarily provide a mix of either one way or two-way travel. On-street parking is typically provided on either one or both sides of the minor streets. There are several one-way side streets (refer to Figure 3.1-1): Green Street is one-way westbound towards Centre Street. Eliot Street is a one-way street westbound towards Centre Street. Custer Street is a one-way street eastbound from South Street. Carolina Street is one-way eastbound towards South Street. Finally, Child Street eastbound and Joseph Street westbound are both one-way streets away from South Street.

There are 14 signalized intersections along the primary corridor:

- South Huntington Avenue at Huntington Avenue
- South Huntington Avenue at Heath Street (pedestrian)
- South Huntington Avenue at VA Hospital (pedestrian)
- South Huntington Avenue at Bynner Street
- South Huntington Avenue at Perkins Street
- South Huntington Avenue at Centre Street/Boylston Avenue
- Centre Street at Green Street/Myrtle Street
- Centre Street at Thomas Street
- Centre Street at South Street/Eliot Street (pedestrian)
- South Street at Carolina Avenue/Custer Street
- South Street at Child Street (pedestrian)
- South Street at McBride Street (pedestrian)
- South Street at Arborway ramps (2 locations)
- South Street at New Washington Street/Forest Hills Bus Driveway Exit

These signalized locations include a variety of control types, including pedestrian only, fire pre-emption (Centre/Thomas) and stop-and-go. The stop-and-go operations provide either fully or semi-actuated operation under the jurisdiction of the Boston Transportation Department (BTD). Most locations provide three-phase operation, including north-south, east-west and pedestrian phases. Existing intersection equipment is in fair to poor condition.



3.1.2 Traffic Volumes and Composition

Manual turning movement counts (TMCs) were conducted in September 2002 at the primary signalized study area corridor intersections listed above. Hourly turning movement count data were collected on a typical weekday (Tuesday-Thursday) from 7:00 AM to 6:00 PM. Figures 3.1-2 through 3.1-4 show the morning (AM), midday (MD) and evening (PM) peak hour volumes collected at the project intersections. Automatic Traffic Recorders (ATRs) collected 24-hour volumes at several locations along the corridor. The TMCs also collected information regarding vehicle classification, pedestrians and bicycle traffic. All original count data are included in Appendix B. Existing traffic conditions on the Arborway and New Washington Street are derived from the Bus Maintenance Facility study.

The traffic volume data demonstrate an Average Daily Traffic (ADT) volume on South Huntington Avenue of approximately 15,000 vehicles per day (vpd). Centre Street had a recorded ADT of approximately 17,000 vpd, and South Street approximately 12,000 vpd. The range in daily volume reflects the varied land use and traffic functions of each street. Traffic flows converge on Centre Street, which provides connection to the Jamaicaaway, the VFW Parkway, and the Arborway, and is the primary business and commercial section of the study corridor. These features are reflected in the higher traffic volumes on Centre Street.

The AM peak hour generally occurs from 7:45 to 8:45 AM, midday (MD) peak hour from 12 to 1PM, and the PM peak hour from 5 to 6 PM. Figures 3.1-2 through 3.1-4 depict a slight directional distribution (AM-inbound/PM-outbound), most notably on South Huntington Avenue, but overall a generally balanced traffic flow exists along the corridor throughout the day. The data support the conclusion that the corridor, as a whole, is a multi-use route that experiences a substantial level of activity throughout the day, rather than primarily a commuter route during morning and evening peak periods.

Pedestrian volumes are relatively high, especially at signalized crossing locations and within the highly commercial areas. For example, more than 50 pedestrians per hour were recorded at the signalized pedestrian crossings at Heath Street and the VA Hospital, with a peak of over 100 pedestrians/hour at the Centre Street/Eliot Street/South Street intersection.

Bicycles were also counted along the corridor during the TMCs. Bicycle volume is typically tied to many of the same land uses which create pedestrian volume. Currently, existing street and sidewalk widths do not provide an adequate or safe cycling environment, possibly reducing the volume of bicycles using the corridor.

Truck (i.e., heavy vehicle) composition was also recorded during the TMC data collection. In general, the truck percentage along the corridor is in the range of 1 to 2 percent during the morning peak period, becoming as high as 6 percent at midday and returning to 1 to 2 percent during the evening peak period. The spike in truck percentage midday is directly attributable to the business, commercial and institutional land uses found along the corridor and the lack of alternative routes.

During the TMC data collection period in September the volume of bicyclists was also recorded during good weather. The volume of bicyclists varied by time of day and section of the corridor. In general, the number of bicyclists was less than 10 per hour, with occasionally as many as 20 noted (typically during the evening [PM] peak hour).



3.1.3 Accident History

To identify accident trends, the most current accident data available were reviewed for the primary study area corridor intersections. The data were obtained from the files of the Massachusetts Highway Department (MassHighway) for the years 1998 through 2000. A summary of the accident data is provided in Table 3.1-1. Using standard MassHighway formulas, accident rates per million vehicles were calculated and summarized in Table 3.1-1. The official statewide and District 4 average rate (i.e., Crash Rate) for the 2002 calendar year is 0.87 for signalized intersections.

Of the 14 signalized project intersections, 6 experienced 8 or more accidents over the three-year period.

- **South Huntington Avenue at Huntington Avenue:** Eighteen accidents occurred during the three-year period. Half of the accidents, 9 of the 18, were classified as rear-end type collisions and 7 of the 18 were classified as angle type collisions. A majority of the accidents, 13 of the 18, occurred on weekdays (12 of the 18 occurring during peak travel hours). Rear-end type accidents are indicative of poor signal indications, and angle-type accidents are typically representative of the same deficiencies, especially the lack of protected left-turn phasing. A high percentage of these accidents, 9 of 18, involved injury.

- **South Huntington Avenue at Perkins Street:** Seventeen accidents occurred during the three-year period. Half of the accidents, 8 of the 17, were classified as angle-type collisions and 5 of the 17 were classified as rear-end type collisions. A majority of the accidents, 14 of the 17, occurred on weekdays (9 of the 17 occurring during peak travel hours). Rear-end type accidents are indicative of poor signal indications, and angle-type accidents are typically representative of the same deficiencies, especially the lack of protected left-turn phasing. A high percentage of these accidents, 9 of 17, involved injury.
- **South Huntington Avenue at Centre Street/Boylston Street:** Ten accidents occurred during the three-year period. Half of the accidents, 5 of the 10, were classified as rear-end type collisions. A majority of the accidents, 8 of the 10, occurred on weekdays, (7 of the 10 occurring during peak travel hours). Rear-end accidents are typically indicative of poor signal indications.
- **Centre Street at Green Street:** Thirteen accidents occurred during the three-year period. Half of the accidents, 6 of the 13, were classified as angle type collisions. A majority of the accidents, 9 of the 13, occurred on weekdays, (7 of the 13 occurring during peak travel hours).
- **Centre Street at South Street/Elliott Street:** Fifteen accidents occurred during the three-year period. Five of the 15, were classified as angle type collisions, while 5 of 15 were classified as rear-end type. A high percentage of these accidents, 10 of 15, involved injuries.
- **South Street at Carolina Avenue/Custer Street:** Ten accidents occurred during the three-year period. No significant trends regarding type or injury were noted in the ten accidents recorded.
- **Arborway:** Forty-nine accidents occurred during the three-year period reviewed. Significant numbers of angle and rear-end type collisions were recorded. This is a direct indication of problems with signal phasing (permissive left-turns) and signal visibility.
- **South Street at New Washington Street:** Fifty-six accidents occurred during the three-year period. The highest percentage involved angle-type collisions.

Only the Arborway and South Street/New Washington Street intersections experienced a crash rate in excess of the average MassHighway Crash Rate for signalized intersections (0.87). These locations exceeded the average significantly. There was a noticeably high number of injury-related accidents at the other intersections, although crash rates were less than the MassHighway average.



3.1.4 Parking

A key issue for residents, commercial/retail stakeholders and institutions along the corridor is the potential impact to existing on-street parking due to the construction and operation of the extended Green Line service. Throughout the primary study area corridor there are on-street parking lanes provided along both sides of the street. The parking lanes are not delineated or striped and therefore an average parking space length of 20 feet was used to estimate capacity. This was confirmed through field observations along the length of the corridor. There are approximately 579 on-street parking spaces along the corridor (Table 3.1-2). There are also two off-street City of Boston lots along Centre Street that contain another 136 free parking spaces.

**Table 3.1-2
Existing Parking Inventory**

Parking Type/Feature	South Street	Centre Street	South Huntington Avenue	Totals
All-day Parking	119	105	186	410
2-hour Parking	38	93	0	131
15-minute Parking	0	3	0	3
10-minute Parking	0	2	0	2
30-minute Parking ¹	2	4	0	6
Construction Parking ²	0	0	7	7
Handicap Parking	4	2	0	6
No Parking ³	<u>0</u>	<u>14</u>	<u>0</u>	<u>14</u>
Subtotal On-street Parking	163	223	193	579
Municipal Lots ⁴	<u>0</u>	<u>136</u>	<u>0</u>	<u>136</u>
Total Parking Spaces	163	359	193	715
Bus Stops	9	12	11	32

- 1 Commercial Parking (8 AM to 5 PM)
2 From 7 AM to 5 PM
3 From 7 AM to 3 PM
4 Curley School and Jamaica Plain Center

The corridor also includes a number of buildings and facilities which provide additional off-street parking for employees and visitors, including (among others):

- Veterans Affairs Hospital
- Massachusetts Society for Prevention of Cruelty to Animals (MSPCA)
- Mary Curley School
- Jamaica Plain Community Center
- Assorted Elderly Housing and Assisted Living

The need to maintain access to the corridor and its land uses requires that maintaining adequate parking be a primary concern during the design and construction of the Arborway facility.

Existing Inventory

The parking supply was determined through a data collection program conducted in September 2002 that included an inventory of on-street parking spaces along the corridor and on side streets within 200 feet of the corridor.

The data collected included the number of spaces, curbside regulations, identification of commercial parking areas, locations of parking for the disabled, bus stops, tow zones and physical features such as fire hydrants and traffic signals. These data are summarized in Table 3.1-2.

In addition to on-street parking, the inventory includes the two municipal parking lots owned by the City of Boston that are adjacent to Centre Street. The number of spaces available at the municipal parking facilities were included in the parking supply calculation. This study also takes into account the City's curbside regulations that impact both the availability and supply of parking spaces.

The South Street section is characterized by a high proportion of all-day parking on both sides of the street from Forest Hills to the intersection of Carolina Avenue. The remaining section of South Street to Centre Street features parking with a two-hour time limit.

Centre Street has mainly two-hour parking from South Street to the Pond Street intersection area. From that point to South Huntington Avenue there is generally all-day parking available.

All-day parking is available on South Huntington Avenue from Centre Street to the end of the study area at the Heath Street Station.

Occupancy and Turnover Rates

Further data collection established the turnover and occupancy rates among parking spaces through license plate observations every 30 minutes. This information was collected on a Thursday in October 2002 (7AM to 7PM) during good weather to establish the turnover and occupancy rate among parking spaces that can then be used to determine the overall parking use and capacity along the corridor. The data were also used to note the degree of adherence to parking time regulations and evaluate the potential area specific parking impacts associated with restoration of Arborway service. Table 3.1-3 presents the results of the occupancy and turnover survey.

Occupancy data were collected and analyzed to establish the portion of the day (7AM to 7PM) during which spaces are actually occupied, thereby indicating level of

capacity and usage. Additional data collection related to the amount of parking turnover was used to complete the parking supply evaluation. This refers to the length of time individual vehicles are parked as well as the total number of vehicles that park over the course of the day. The collection of this data was through field observation of the parking duration of vehicles along each segment of the corridor.

In general, the data show that during most time frames there is some level of parking availability along the corridor to meet the needs of auto users and minimize the amount of circulation related to finding a parking space. Occupancy rates in excess of 85 percent generally indicate that parking is at capacity. Under those conditions motorists must generally park further from their destination and there is an increase in circulation. At no time did occupancy exceed 85 percent along the study corridor, although it did reach almost 77 percent in the South Street section.

**Table 3.1-3
Existing On-street Parking Occupancy and Turnover**

Segment	Percent Occupied ¹			Turnover Rate ²		
	East	West	Total	East	West	Total
South Huntington Avenue (Heath Street to Centre Street)	75.74	74.92	75.34	1.5	0.9	1.2
Centre Street (South Huntington Avenue to South Street)	66.33	60.89	63.73	4.0	4.8	4.4
South Street (Centre Street to Arborway)	76.47	73.90	75.26	2.5	2.7	2.6

1 Percentage of time between 7 AM and 7 PM that spaces are occupied, by side of street.

2 Average number of turnovers per space between 7 AM and 7 PM.

These occupancy rates indicate that although not at capacity, certain sections of the corridor are reaching parking capacity. In the Centre Street segment the 12-hour occupancy rate does not precisely reflect actual occupancy, which varies throughout the day. Morning occupancy is low in the business and commercial areas (most businesses are not open in the early morning hours) thereby skewing the daily occupancy downward. Overall the corridor experiences occupancy between 65 and 75 percent, reflecting parking usage that does not exceed, but is near capacity.

The turnover rates also indicate that turnover is high within the Centre Street section. Spaces in the Centre Street segment turned over between four and five times over the 12-hour period. The low turnover rates in the South Huntington Avenue and South Street segments indicate that these (primarily unregulated) spaces are essentially filled by the same vehicles all day.



3.1.5 Transit

The principal bus route along the corridor is the Route 39 Forest Hills Station/Back Bay Station route that operates the length of the study area every three minutes in peak periods, every nine minutes during the midday and 10 minutes in the evening. The Route 39 bus replaced Green Line trolley service that was discontinued in 1985. There are approximately 16 bus stops on both the northbound and southbound sides of the corridor. All bus stops are curbside pick up and are approximately 500 to 600 feet apart. The average travel time inbound from Forest Hills to Heath Street is 12 minutes during the morning peak hour, 11 minutes during the midday peak hour, and 9 minutes during the evening peak hour. The average travel time outbound from Heath Street to Forest Hills is 11 minutes during the morning, midday and evening peak hours.

The Route 38 along South Street and the Route 41 and Route 48 bus routes on Centre Street augment the Route 39 service along South Street. These additional services are less frequent, typically operating every 15 to 20 minutes in peak periods and every 30 to 40 minutes in the midday. Bus routes along the corridor are illustrated in Figure 1.3-3.



3.1.6 Traffic Operations

Field observations of corridor travel time and traffic operations were augmented by level-of-service analysis to establish current conditions within the study corridor. Corridor travel times varied between 7 and 10 minutes, the highest of which occurred inbound during the AM peak period and outbound during the PM peak period. Congestion associated with vehicles, traffic signals, pedestrians, buses and parking maneuvers all contributed to increasing overall travel time during this period.

Tables 3.1-4 and 3.1-5 present the AM, Midday and PM peak hour levels-of-service experienced at the study area intersections. Given the number and close spacing of intersections, intersection operations essentially govern overall corridor capacity. LOS is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loading. It is a qualitative measurement of the effect of a number of factors including roadway geometry, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection with letter designations ranging from A to F. As shown in Table 3.1-4, LOS A represents the best operating condition, and LOS F represents the worst operating condition.

Table 3.1-4
Level-Of-Service Criteria For Signalized Intersections

<u>Level of Service</u>	<u>Stopped Delay per Vehicle (sec)</u>
A	≤ 10
B	> 10 - 20
C	> 20 - 35
D	> 35 - 55
E	> 55 - 80
F	>80

Source: Highway Capacity Manual 2000, Transportation Research Board, Washington, DC, 2000.

The LOS designation is reported slightly differently for signalized and unsignalized intersections. For signalized intersections, the analysis considers the operations of all traffic entering the intersection and the LOS designation is for the overall operations at the intersection. For unsignalized intersections, the analysis assumes that the traffic on the mainline is not affected by traffic on the side streets. Therefore, LOS designations are determined for the critical movements at the intersection, which are typically the turning movements. The evaluation criteria used to analyze the study intersection are based on the *Highway Capacity Manual*³ and are described more fully in Appendix B.

As can be seen by Tables 3.1-5 and 3.1-6, the project locations provide a variety of LOS results by peak period. Poor LOS (i.e., LOS “E” or worse) is experienced at the intersection of South Huntington Avenue/Huntington Avenue during the morning and evening peak hours. Another location with poor LOS is the South Huntington Avenue at Centre Street/Boylston Street intersection, which experiences LOS “E” during the morning peak hour. South Street at the Arborway experiences LOS “F” during the morning and evening peak hours. All other signalized locations experience acceptable LOS throughout the day, however, as can be seen by the table, many locations are nearing saturation with volume to capacity ratios close to 1.0. The unsignalized locations at Heath Street and Eliot Street also revealed poor (LOS “F”) conditions.

Average intersection delays range along the corridor from as little as one second/vehicle (at signalized pedestrian crossings) to as much as 95 seconds/vehicle at the Centre Street/Boylston Street intersection and substantially more (150-200 seconds/vehicle) at the Arborway/South Street intersection. During the AM peak hour, intersection delays can add as much as three to five minutes (on average) to full corridor travel time. The intersection-related delays are significantly less during the remainder of the day, excepting the Arborway/South Street intersection.



³ Source: Highway Capacity Manual 2000, Transportation Research Board, Washington, DC, 2000.

**Table 3.1-5
Signalized Intersection Capacity Analysis Summary**

Location	AM Peak			Midday			PM Peak		
	v/c ¹	Delay ²	LOS ³	v/c	Delay	LOS	v/c	Delay	LOS
South Huntington Avenue at:									
Huntington Avenue	0.97	56.3	E	0.80	32.9	C	1.20	97.1	F
Heath Street	0.45	1.9	A	0.36	1.5	A	0.60	2.5	A
VA Hospital	0.45	1.8	A	0.25	1.1	A	0.36	1.3	A
Bynner Street	0.95	35.6	D	0.44	12.4	B	0.98	41.3	D
Perkins Street	0.99	49.5	D	0.58	15.2	B	0.90	32.2	C
Centre Street/Boylston Street	0.98	72.7	E	0.80	33.7	C	0.92	53.5	D
Centre Street at:									
Green Street/Myrtle Street	0.76	21.8	C	0.74	19.7	B	0.98	42.8	D
Thomas Street	0.66	11.3	B	0.53	12.1	B	0.59	14.1	B
South Street at:									
Carolina Avenue/Custer Street	0.80	23.0	C	0.49	11.8	B	0.71	18.5	B
Child Street/St. Joseph Street	0.63	3.2	A	0.38	1.3	A	0.50	1.8	A
McBride Street	0.58	3.2	A	0.32	1.5	A	0.41	2.2	A
Arborway	1.44	158.4	F	0.85	50.0	D	1.64	209.2	F
Forest Hills	0.72	30.4	C	0.43	11.2	B	0.64	31.2	B

1 volume-to-capacity ratio

2 average delay in seconds per vehicle

3 level of service

**Table 3.1-6
Unsignalized Intersection Capacity Analysis Summary**

Location	AM Peak			Midday			PM Peak		
	v/c ¹	Delay ²	LOS ³	v/c	Delay	LOS	v/c	Delay	LOS
South Huntington Avenue at:									
Heath Street	1.44	866.0	F	0.82	53.4	F	1.23	504.1	F
Centre Street at:									
Eliot Street	1.11	134.4	F	0.45	19.5	C	2.6	>1000	F
South Street at:									
Centre Street	0.43	21.4	C	0.27	11.9	B	0.29	16.6	C

1 volume-to-capacity ratio

2 average delay in seconds per vehicle

3 level of service

3.2 Noise

This section provides a discussion of the noise criteria and guidelines, the noise metrics used in the analysis, and a description of the existing noise environment along the Arborway Green Line corridor.



3.2.1 Noise Metrics, Measurement and Criteria

“Noise” is defined as “unwanted sound.” Sounds are described as noise if they interfere with an activity or disturb the person hearing them. Sound is measured in a logarithmic unit called a decibel (dB). Since the human ear is more sensitive to middle and high-frequency sounds than it is to low frequency sounds, sound levels are weighted to reflect human perceptions more closely. These “A-weighted” sound levels are measured using the decibel unit dBA. Noise that is transmitted through the air is referred to as “airborne noise.”

Sound levels fluctuate with time depending on the sources of the sound audible at a specific location. In addition, the degree of annoyance associated with certain sounds can vary by time of day, depending on other ambient sounds affecting the listener and the activities of the listener. Because the time-varying fluctuations in sound levels at a fixed location can be quite complex, they typically are reported using statistical or mathematical descriptors that are a function of sound intensity and time. A commonly used descriptor of noise is the L_{eq} which represents the equivalent or steady A-weighted noise level that contains the same acoustic energy as the time varying noise level. In areas where sleep activity takes place, the L_{dn} which measures an average “day-night” sound, is the most commonly used measure. The L_{dn} level is a statistical descriptor of sound over a 24-hour period taking into account that sounds are more annoying during the nighttime hours. The L_{dn} level adds a 10 dBA penalty to sounds that occur during the nighttime hours between 10:00 PM and 7:00 AM.

The Federal Transit Administration (FTA) has established three noise categories for various types of receptors, depending upon their land use. These categories are described below:

- **Category 1:** This category includes buildings and parks where quiet is an essential element in their intended purpose. Land uses include open space set aside for serenity and quiet (i.e., wilderness areas) and areas for outdoor concert pavilions.
- **Category 2:** This category includes residences and buildings where people normally sleep. Land uses include homes, hospitals, nursing homes and hotels where nighttime sensitivity to noise is assumed to be of utmost importance. The L_{dn} is the noise metric used for these locations.

- **Category 3:** This category includes institutional land uses with primary daytime and evening use. Land uses include schools, libraries, places of worship, museums, historically significant sites and active parks where it is important to avoid interference with such activities as speech, meditation and concentration on reading material. Buildings with interior spaces where quiet is important, such as medical offices and conference rooms, recording studios and concert halls are also included in this category. The criteria do not apply to most commercial and industrial uses because these activities generally are compatible with higher noise levels. They do apply to business uses that depend on quiet as an important part of operations, such as sound and motion picture recording studios. For these locations, the peak hour L_{eq} is the noise metric to be used.

Ambient noise in an urban neighborhood can come from a variety of sources. Motor vehicle pass-bys, industrial and commercial mechanical equipment, and building heating and air conditioning units can all make significant contributions to the noise in an urban area. The relative intensity and annoyance produced by each noise source can vary due to location, intensity, and time; pure tone sources such as fans and air compressors are considerably more annoying than sources which produce a wider spectrum of noise at a similar level, such as motor vehicles. Areas where sound can echo significantly, as in areas on narrow streets between building structures can have significantly higher noise levels than adjacent locations with similar noise sources and less reflection from building surfaces.



3.2.2 Noise Measurement Program

Noise monitoring was conducted using a CEL-593 Sound Level Analyzer and a Larson-Davis 820 sound level meter. Both of these meters meet or exceed ANSI Standards for Type 1 quality and accuracy. During the measurement program, the sound level meters were calibrated before and after each measurement period using a CEL Model 284/2 Calibrator. For the long-term 24-hour noise measurements, the sound level meters were enclosed in an environmental weatherproof case, with the microphone located on a tripod at a height of 5-feet above ground level.

In order to identify representative locations, a site visit was conducted. Monitoring locations were selected that would represent similar noise characteristics among noise sensitive receiver areas. Noise monitors were positioned to be in line with the front of each typical row of buildings near each measurement location.

Existing ambient noise levels were measured for 24-hour periods at representative locations at six sensitive receptor areas between September 30 and October 10, 2002. These results were then used to calculate an L_{dn} (24 hour equivalent level) at each location. Monitoring was also conducted for a one-hour period for the peak L_{eq} at four locations near commercial receptors.



3.2.3 Existing Noise Conditions

Noise sources along the Arborway corridor are primarily due to motor vehicle pass-bys. In particular, MBTA and school buses, which run at fairly frequent intervals, as well as delivery trucks accessing various local businesses, are significant contributors to noise along the Arborway corridor in addition to noise produced by passenger cars. These noise sources also have a significant 24-hour variation; they tend to peak during morning and evening rush hours, or for cases where congestion greatly slows down the traffic flow, in the hours directly preceding or following the peak traffic hour intervals. Figure 3.2-1 shows sound levels from typical noise sources.

The measured existing noise levels are shown in Table 3.2-1 and the measurement locations are shown in Figures 3.2-2A-E. Noise levels within the Arborway corridor are representative of conditions in a noisy urban area. The high noise levels along the corridor are due to the high traffic volumes and the relatively short distance from the corridor to the front of most of the receptors. Traffic on the corridor includes a wide variety of vehicles, including delivery trucks and MBTA buses which run seven days a week, with approximately 10 buses per hour along the Arborway corridor.

Existing measured L_{dn} noise levels along the corridor range from about 67 to 77 dBA. The L_{dn} noise levels are sometimes higher than the peak hour noise level, due to the 10 dBA penalty added to noise between 10:00 PM and 7:00 AM 24-hour noise levels are shown at the north end of the corridor (Veterans Hospital) and near the south end of the corridor (at Spalding Street) for comparison in Figures 3.2-3. In general, levels are highest in the center of the corridor, and lowest at the north end along Huntington Avenue. Both peak and typical 24-hour noise levels were higher in the center section. This appears to be due to both higher traffic volumes in this area, and to the shorter distances from the buildings to the transit corridor. The observed variation in noise levels between receptors in different regions of the corridor are due to differences in actual noise levels along the corridor from differing traffic volumes and speeds as well as slightly greater distances to the front of the buildings of some of the sensitive receptors at the north end of the corridor.

**Table 3.2-1
Monitored Existing Noise Levels (dBA)**

Site ¹	Description	Category	Measurement Type	Measured Value
R1	Spalding Street	2	24 Hour	72.0
R2	Carolina Street	2	24 Hour	69.0
R3	Loring-Greenough House	3	Peak Hour	69.0
R4	J.P. Licks Coffee House	N/A ²	Peak Hour	80.2
R5	North of First Baptist Church	2	24 Hour	74.5
R6	Urban Medical Group	3	24 Hour	66.6
R7	Mary Curley School	3	Peak Hour	60.1
R8	CVS Pharmacy	N/A	Peak Hour	70.8
R9	Mount Pleasant Home	2	24 Hour	60.0
R10	Veterans Hospital	2	24 Hour	66.9

¹ See Figure 3.2-2A-E

² N/A – criteria are not applicable to commercial locations

Peak noise levels at the commercial, educational, and historic receptors tended to depend mostly on distance from the Arborway corridor. Locations at greater distances from the corridor such as the Mary Curley School and the Loring-Greenough House, had lower noise levels than commercial establishments located very close to the corridor, such as the J.P. Licks Coffee House and the CVS Pharmacy.

Measured noise levels varied considerably throughout the day. Peak noise hour levels did not always correspond to peak traffic hour levels; they sometimes occurred during midday hours. This is due to the fact that traffic is currently so congested on most of the corridor during rush hour that traffic slows to a crawl, reducing vehicle noise emissions to considerably lower levels than during off-peak hours when vehicles travel at higher speeds.

3.3 Vibration

This section outlines existing vibration conditions along the Arborway corridor. It includes a description of vibration criteria and metrics, FTA guidelines for measuring vibration, a summary of current vibration conditions along the corridor, and a discussion of current vibration propagation conditions likely to be expected along the corridor.



3.3.1 Vibration Metrics and Criteria

Ground-borne vibration is a small, rapidly fluctuating motion transmitted through the ground. Ground-borne vibration diminishes (or “attenuates”) fairly rapidly with distance. Ground-borne vibration levels tend to vary significantly from site to site for identical vibration sources because of the different ground propagation characteristics of different soil types. For example, vibration levels will be higher in stiff clay-type soils than in loose sandy soils.

Environmental vibration and its associated potential perception by humans or adverse effects on buildings can be generated by transportation systems (such as streetcars, subways, trucks, automobiles) construction activities (such as heavy earth moving equipment, blasting, pile driving) power generation or other large mechanical systems, or by actual seismic motion. While vibrational motion can be generated in the longitudinal, lateral, and vertical directions, traditionally only the vertical component is measured during environmental studies, because this usually has the highest magnitude and is the most easily measured.

When a surface is excited by vibrational forces, any given vibrating point can be described by its instantaneous acceleration, velocity, or displacement relative to some equilibrium neutral position. Due to the perception sensitivity, ease of quantifiable measurement, and the fact that the velocity component is the most linear component within the low frequencies of interest (10 to 1000 cycles per second (Hz)), velocity has been standardized as the metric for evaluating environmental vibration impacts. As such, vibration results are usually expressed in units of inches per second (ips). However, due to the very large velocity range over which vibration energy can be found (.0001 ips to 1.0 ips), a more convenient decibel scale has been adopted allowing compression of this large velocity range into a more practical scale through the following equation, where the reference velocity level, V_o is 1 micro - inch per second.

$$\text{Vibration Velocity Level (in VdB)} = 20 \text{ LOG}_{10}(V/V_o)$$

Typical measured vibration levels range between 40 - 120 VdB, with levels of 50 to 90 (Vibration Decibels) VdB being typical of measured transit vibration levels.

Vibration levels can be quantified using the different measurement metrics described below:

- **Peak Particle Velocity, or PPV**, which represents the maximum instantaneous positive or negative peak motion of a vibrating surface. The PPV is appropriate for evaluating impulsive vibration source such as blasting or pile driving, and the resulting stresses potentially damaging to buildings. Consequently, the PPV is usually selected when evaluating construction vibration impact. PPV is typically expressed in units of inches per second, although it can also be expressed in VdB.

- **Root Mean Square, or RMS**, which represents a mathematically averaged level which is more proportional to the energy-of-motion generated by a vibrating surface. The RMS vibration velocity level has been shown to better simulate the human body's sensitivity to vibration when computed with a one-second averaging time. The RMS velocity level is preferred when evaluating transit-induced operational impact and is usually expressed in units of VdB.

Some land use activities are more sensitive to vibration than others. For example, certain research and fabrication facilities, TV and recording studios and concert halls are more vibration-sensitive than residences and buildings where people normally sleep, which are more sensitive than institutional land uses with primarily daytime use. The FTA Vibration Impact Criteria assigns sensitive land uses to the following three categories:

- **Vibration Category 1: High Sensitivity** – Buildings where low ambient vibration is essential for the interior operations in the building.
- **Vibration Category 2: Residential** – Residences and buildings where people normally sleep, such as hospitals and hotels where nighttime sensitivity is assumed to be of utmost importance. It also includes some special uses such as auditoriums or theaters.
- **Vibration Category 3: Institutional** – Land uses with primarily daytime use including schools, churches, other institutions and quiet offices that do not have vibration-sensitive equipment.

The land uses of all receptors situated along the Arborway were identified as a mix of mostly Category 2 (residences) and some Category 3 (institutional) type receptors. Ambient vibration levels in an urban neighborhood can come from a variety of sources. Motor vehicle pass-bys, and industrial and commercial mechanical equipment can all make significant contributions to perceived vibration in an urban area. The relative intensity and annoyance produced by each vibration source can vary due to location, intensity, and time of day. Typical ground-borne vibration levels for various sources are shown in Figure 3.3-1.



3.3.2 Vibration Measurement Program

Existing vibration levels were measured along the Arborway corridor as part of this study. Vibration measurements, as described below, include baseline vibration levels, vibration traverses, and measurements of existing Green Line bus and light rail operations on similar corridors.

Vibration measurements were performed to measure the peak impact of existing vehicles along the Arborway, such as passing trucks and buses. Instrumentation used during the light rail pass-by tests and ambient vibration measurements included a CEL Instruments Model 593 Noise Meter configured to measure vibration,

a PCB Model 393C Seismic Piezoelectric Accelerometer, a PCB 480D06 Power Supply, and a CEL 0020 Electronic Integrator. The accelerometer was placed under a sand bag for all measurements to ensure good coupling with the ground. The accelerometers output signal was fed through the electronic integrator to yield a signal proportional to the velocity. The CEL 593 meter was configured to measure and record a stream of RMS values averaged over one second response time.

Baseline vibration measurements were conducted along the Arborway corridor between October 5 and October 10, 2002. These levels were intended to both quantify existing vibration levels along the Arborway corridor, and to serve as comparison levels for estimating the relative impact of the re-introduction of light rail service to the Arborway corridor.

Ambient Vibration Levels

The ambient vibration levels were measured over 15-minute periods at each location during the day. They serve to establish the existing ambient or baseline vibration conditions along the Arborway corridor. Measurements were conducted along the corridor at eight different locations, chosen to be representative of typical vibration levels along each segment of the corridor, as shown on Figure 3.2-2A-E. Measurement locations were selected to be adjacent to the edge of the first row of buildings at each site, so that peak vibration levels experienced near the front of each building would be measured.

Vibration Traverses

Vibration levels were also measured along three traverses, (instruments placed at various distances from the roadway) to measure the ground propagation characteristics along the Arborway corridor. Vibration levels were measured at the Home for Little Wanderers, at the Urban Medical Center, and the Loring-Greenough House. The measurements along the Arborway corridor consisted of peak vibration levels measured from MBTA bus pass-bys. The traverse locations are also shown in Figure 3.2-2. These measurements were used to establish typical seismic wave propagation conditions along the corridor. By correcting these curves for speed and weight differences between buses and light rail vehicles, as determined by a comparison of the levels for each vehicle recorded on Huntington Avenue, it will be possible to estimate the potential impact of the re-introduction of light rail vehicles along the Arborway corridor.

For the traverses along the corridor the accelerometers were placed at various distances from the curb, usually at 10, 20, and 40 feet, but sometimes at slightly different distances depending on the limitations of each measurement site. The accelerometers were mounted on stakes driven into the ground for good coupling. Vibration from several bus pass-bys were recorded at each location, along with the estimated bus speed and distance from the curb for each pass-by. By first correcting these measurements for speed and distance from the curb, and then averaging them, a ground propagation curve was obtained for each location.



3.3.3 Existing Ambient Vibration Levels Along the Arborway corridor

Vibration sources along the Arborway corridor are primarily due to motor vehicle pass-bys. In particular, MBTA and school buses, which run at fairly frequent intervals, as well as delivery trucks accessing various local businesses, are significant contributors to vibration in the Jamaica Plain region in addition to vibration produced by private passenger cars.

Table 3-3.1 summarizes the measured RMS vibration velocity average and peak levels measured at each location.

Average vibration levels ranged from 38 to 62 VdB, depending on location. The locations with the highest vibration levels were at Carolina Street and Saint John's Street, directly next to business structures located 10 feet from the edge of Centre Street. Locations with the lowest levels were located at a considerable distance from the street across soft ground, as at the Loring-Greenough House or the Mount Pleasant Home. Levels at the Veterans Hospital were slightly lower than expected due to the smoother surface of Huntington Avenue and the vibration-absorbing fill recently placed near the new building.

Table 3.3-1
Monitored Existing Vibration Levels (VdB)

Site Number	Description	Category	Peak Hour	Peak Level
			L_{eq} (VdB)	L_{max} (VdB)
R1	Spalding Street	2	58	71
R2	Carolina Street	2	62	70
R3	Loring-Greenough House	2	50	56
R5	Saint John Street	2	60	74
R6	Urban Medical Center	1	45	64
R7	Mary Curley School	3	47	56
R9	Mount Pleasant Home	2	38	57
R10	Veterans Hospital	2	38	58
R11	Home For Little Wanderers	2	47	50

The corrected Vibration Traverse results for each location are shown in Figure 3.3-2. These curves will be corrected for the difference in vibration characteristics between Green Line vehicles and buses to obtain an estimate of vibration levels anticipated from Green Line streetcars along the project corridor.

3.4 Air Quality

The proposed Arborway Restoration Project is expected to play an important role in improving the air quality in the Boston area. The Clean Air Act Amendments (CAAA) resulted in states being divided into attainment and nonattainment areas, with classifications based upon the severity of their air quality problem. The Arborway Restoration Project is located in the Boston Metropolitan Area that EPA has designated as "Maintenance" attainment area for CO. The EPA has designated all of Massachusetts and adjacent areas of New Hampshire, Rhode Island and Connecticut as nonattainment area for ozone with a classification of "Serious". A "Maintenance" area is an area that once was nonattainment and based upon improvements in air quality could be redesignated to attainment.

The Arborway Streetcar Restoration project also addresses the need for air quality improvements. Certain pollutants related to emissions from transportation sources are regulated by the U.S. Environmental Protection Agency (EPA) across the country. These include: carbon monoxide (CO), hydrocarbons (HC), oxides of nitrogen (NOx), and particulates. Hydrocarbons (sometimes referred to as "volatile organic compounds," and NOx are produced by motor vehicles and contribute to smog. A major component of smog is ozone (O3), which can be measured directly and is used as the indicator of regional air quality. Some other pollutants, such as sulfur dioxide,

may be found in vehicle exhaust, but overall, transportation sources do not contribute significantly to this pollutant.

The Commonwealth of Massachusetts, in accordance with federal law, has produced a plan to bring the air quality in the eastern part of the state into compliance with federal air quality standards. This “State Implementation Plan” (SIP) considers all sources of air pollution, including stationary sources and transportation sources, and identifies measures to reduce emissions. The Arborway Green Line Restoration project is identified in the SIP as one of the state’s initiatives to reduce air pollution to achieve these standards.

The Arborway Streetcar Restoration helps achieve air quality objectives in a number of ways. First, it diverts specific commuting trips from automobiles to transit, resulting in substantial reductions of emissions of key pollutants for those particular trips. Secondly, restoration of the Green Line to Arborway will result in the elimination of the Route 39 bus, which generates 2100 bus vehicle miles traveled along the corridor each day. Further, as part of a regional transit program, it helps support land use patterns and travel habits that reduce automobile travel beyond the specific commuting trips that are diverted to commuter rail. As determined by the SIP, the level of ridership on public transportation services is the chief measure of the project’s contribution to regional air quality goals.

3.5 Cultural Resources

This section describes above ground historic resources within the area of potential effect (APE) focusing on the historic development and historic properties within the project limits. An APE is defined as “a geographic area within which direct and indirect effects generated by the project could reasonably be expected to occur and to cause a change in the historical, architectural, archaeological, or cultural qualities possessed by a State Register property” (950 CMR 71.03). A State Register property is defined as “a district, site, building, structure, or object included in the State Register” (950 CMR 71.03).

The Arborway project’s proposed APE for historic properties is defined as 100 feet on either side of the project’s center line, except in cases where districts that are listed in the State Register of Historic Places are adjacent to or cross the corridor. In those cases the APE extends to conform to the boundaries of the district.

Information on cultural resources is based on available published reports, the State and National Registers of Historic Places, a review of the Massachusetts Historical Commission’s *Inventory of Historic and Archaeological Resources of the Commonwealth*, and a “windshield” field survey of the corridor.



3.5.1 Historical Development

The historical development of Jamaica Plain is documented in the 1983 *Jamaica Plain Preservation Study* prepared by Rosalind Pollen, Carol Kennedy, and Edward Gordon for the Boston Landmarks Commission.

In the 17th century, Jamaica Plain (then known as the Town of Roxbury) was an area of fertile farmlands, supplying much of Boston's fruit and produce. In 1654 the town had just 120 dwellings. Besides Washington Street (the sole land route from the peninsula of Boston to the mainland) the other major 17th century street in Jamaica Plain was Centre Street. Early secondary streets included South Street and Perkins Street. Cross streets were not added in significant numbers until the second half of the 19th century.

In the late 17th and 18th centuries, a village grew up around Monument Square (then called Eliot Square) with scattered farms along Centre Street and in the Stony Brook Valley. In 1689, John Eliot, pastor of the First Church of Roxbury, supported the development of the first school in Roxbury. In 1769, the third parish was established at Eliot Square on the site of the present Unitarian Church (1854). In the second half of the 18th century, many of Boston's leading citizens, including Governor Francis Bernard and John Hancock, built summer estates in Jamaica Plain.

Beginning after 1795, the Jamaica Plain Aqueduct was constructed from Jamaica Pond to Fort Hill, between 1803-1804 Washington Street was improved, and in 1834 the Boston and Providence railroad was developed through Jamaica Plain. These factors led to the rapid development of industry in the mid-19th century. Tanneries and breweries grew up in a band from Roxbury Crossing to Forest Hills and several groups of workers' cottages followed shortly thereafter including clusters of Irish workers' cottages, which were built on what is currently known as McBride Street. The construction of the railroad prompted the arrival of commuters who generally moved within walking distance of the train stations. Many of the commuter's substantial Greek Revival, Italianate, and Second Empire style homes still exist. In 1837, Samuel G. Goodrich's lots bordering Green Street between Centre Street and the railroad track (the current Southwest Corridor) were subdivided and relatively modest homes were built. In the early 1850s, David S. Greenough subdivided his land on Sumner Hill for the construction of more substantial homes.

In 1851, West Roxbury was declared a separate town from Roxbury, and in 1868 the West Roxbury town hall was built in Eliot Square near the Loring-Greenough House. Only five years later, in 1873, West Roxbury annexed itself to Boston. In the early 1870s streetcar tracks were extended from Roxbury into West Roxbury along Washington Street and Centre Street. An unprecedented number of lower-middle class streetcar commuters built modest homes between 1870 and 1900 in the area. Most of the 18th century estates were subdivided, and cross roads were put in

between the old through streets. The majority of the development occurred off Centre Street (south of Green Street) and South Street.

Industry continued to thrive in the Stony Brook Valley east of the corridor. After the Civil War, carriage factories, rubber mills, and breweries were constructed along Green Street, Brookside Avenue, Cornwall Street, and Armory Street. Old residential neighborhoods became more crowded as cul-de-sacs branched from existing streets and parcels were divided and sold.

Almost all of the houses built in Jamaica Plain during this period were single or two-family, detached, wooden structures. Triple-deckers were concentrated near the borders of Roxbury and the manufacturing district, Hyde Square and the Stony Brook Valley. Churches of many denominations were built for new residents and Centre Street became lined with small stores. In the early 1890s, the city constructed schools and other municipal buildings in attempt to keep up with the population growth of the area.

In 1909, the Forest Hills Extension of the Boston Elevated Railway was put through above Washington Street. The immediate result was a building boom in Roslindale and West Roxbury. Since World War II, there has been little construction of single-family houses in the area. Several low-rise middle-income apartment buildings were built in the 1950s and 1960s.



3.5.2 Historic Neighborhoods

Jamaica Plain currently includes seven historic neighborhoods or “subareas” identified in the 1983 *Preservation Study*: Jamaica Hills, South Street-Arborway, Parkside, Pondside, Summer Hill, Hyde Square and Eggleston Square-Green Street (Figure 3.5-2). The project APE passes through the South Street-Arborway, Pondside, Summer Hill and Hyde Square subareas, as described below.

South Street - Arborway

The *Jamaica Plain Preservation Study* describes the South Street-Arborway subarea as the neighborhood bounded to the north by Centre Street and Carolina Avenue, on the east by the old Boston and Providence Railroad tracks (the current Southwest Corridor) and to the south and west by the Arborway. This part of Jamaica Plain is characterized by worker cottages and triple-deckers. Large Queen Anne and Colonial Revival residences are along the Arborway, bisected by the 20th century commercial and residential structures on South Street.

Pondside

The Pondside subarea is bound by Perkins Street on the North, South Huntington Avenue and Centre Streets on the east, Murray Circle in the southwest corner and

the Jamaicaway and Francis Parkman Drive on the west side of Jamaica Pond. This area is characterized by predominantly suburban residential development of mid-to late-19th century woodframe single-family and early 20th century two family houses interspersed with a few 20th century triple-deckers and brick apartment buildings. Commercial development is concentrated north of Monument Square along Centre Street.

Since Centre Street was the major transportation route through Jamaica Plain in the 17th century, early residences and farming homesteads were scattered along its length. Monument Square, in particular, has played a large role in the development of Jamaica Plain. The community's first meetinghouse was constructed in 1769 on the site where the present Unitarian Church stands in Monument Square. Land for the first school was donated by two individuals in 1676 and 1689. The 75+ acres extends between Monument Square and Jamaica Pond. Since 1870, Eliot Hall, 7 Eliot Street, located just out of Monument Square, has hosted the Footlight Club, considered to be the oldest amateur theatrical group in the country.

Eliot and Burroughs Streets were the first suburban residential areas to be developed in Pondside.

Commercial development in Pondside is exclusively along Centre Street in a mixture of uses and building types. The west side of the 700 block retains 3 noteworthy Victorian brick commercial buildings; 745 Centre Street, built in 1875; 707-711 Centre Street, built in 1887; and 701-705 Centre Street built in 1888. The less distinguished commercial structures erected on Centre Street in the 20th century are now adjacent to gas stations, franchise restaurants, and numerous storefront alterations.

Sumner Hill

The Sumner Hill subarea encompasses the hilly terrain between Centre Street, Green Street, Sedgwick Street, and the old Boston and Providence Railroad. With the exception of Centre Street, this area generally consists of large, well-crafted, mid-19th century residences situated on ample, tree shaded and puddingstone wall enclosed lots. The northern part of Sumner Hill contains smaller lots and more modest homes.

Facing Monument Square is the Loring-Greenough House. With its adjoining carriage house and gardens, the Loring-Greenough House is the last of numerous country homes of its period remaining in Jamaica Plain.

Hyde Square

The Hyde Square area is bounded by Centre Street on the west and north, Green Street on the south, and the old Boston and Providence railroad right-of-way on the east. With the exception of Centre Street and the small industrial buildings near the railroad, most of Hyde Square is residential in nature. Much of Hyde Square is along Centre Street, the earliest street in the area. Boylston Street, the area's first cross

street, was constructed between Centre and School Streets by 1832. The second cross street, Green Street, was laid out in response to the construction of the Boston and Providence Railroad in 1837.

Around the mid-19th century, Chestnut Avenue and Lamartine Street were laid out and suburban homes, built for families of Boston artisans and businessmen who commuted by railroad to the city, began to appear in their immediate vicinity and along Centre Street. After the Civil War and during the 1870s the Hyde Square area began to develop more rapidly. The introduction of streetcar service and the electric trolleys resulted in a building boom during the last two decades of the 19th century producing substantial single family residences, two-family homes, and triple-decker construction.



3.5.3 Historic Resources

Based on a review of the State and National Registers of Historic Places there are three individually listed historic properties and one historic district within the project APE, including the Loring-Greenough House, 12 South Street, and the Monument Square Historic District, which also includes the First Church of Jamaica Plain, 6 Eliot Street; and Eliot Hall, 7 Eliot Street.

The 1760 Loring-Greenough House is individually listed in the National Register of Historic Places (NRIND), is a designated Massachusetts Historic Landmark (MA/HL), is a locally designated landmark (LL) and is subject to a preservation restriction (PR). The Loring-Greenough House is significant for its associations with the American Revolution and as an intact example of 18th century Georgian architecture. Joshua Loring was a successful privateer and officer of the Royal Navy. Following his military career, Loring constructed the South Street residence in 1760. After Loring's evacuation of Boston in 1776, Revolutionaries seized Loring's house for use as one of the first American military hospitals. Since 1924, the property has been owned and operated as a museum by the Jamaica Plain Tuesday Club. Today, the house and its surrounding two acres of gardens comprise one of the last surviving country estates in Jamaica Plain.

The National Register listed Monument Square Historic District contains a collection of well-preserved 18th, 19th and early 20th residences and institutional buildings located between Jamaica Pond and Centre Street. Predominately suburban residential in nature, the district also includes two churches (First Church of Jamaica Plain, 6 Eliot Street and the First Baptist Church, 633 Centre Street), one hall (Eliot Hall, 7 Eliot Street), and a school (Eliot School, 22 Eliot St). The First Church of Jamaica Plain and Eliot Hall were both individually listed in the National Register of Historic Places in 1988, prior to the 1990 designation of the Monument Square Historic District.

The Monument Square area illustrates community planning and development through the transformation of a 17th and 18th century village to an area of 19th century estates and an early 20th century suburban residential neighborhood. The 43-acre historic district includes a variety of architectural styles from the period including, Federal, Greek Revival, Italianate, Queen Anne and Colonial Revival. The historic district boundaries (see Figure 3.5-1) includes the earliest surviving building, the 1755 Linden Hall, 28-30 Grovenor Road, which illustrates the district's early use for summer estates, and early 20th century suburban development.

The boundaries of the Monument Square National Register Historic District were drawn to exclude denser, more modest and modern residential development to the northeast and southwest, and commercial development along Centre Street to the southeast. Jamaica Pond forms a natural boundary to the northwest of the district.

A review of the Massachusetts Historical Commission's *Inventory of Historic and Archaeological Assets of the Commonwealth* revealed 16 additional inventoried properties within the project APE as illustrated in Figure 3.5-2A-E and summarized in Table 3.5-1 below. Identified as part of the *Jamaica Plain Preservation Study*, these properties include a mix of residential and commercial properties located on Centre Street, St. John Street, Lakeville Street, South Street and South Huntington Avenue.

Table 3.5-1
Inventory of Historic and Archaeological Assets of the Commonwealth

Map Id #	Street Address	MHC #	Historic Name
1	405 South Huntington Avenue	BOS.10168	Andreas Tomforhde House
2	440 Centre Street	BOS.8876	First German Baptist Church
3	480 Centre Street	BOS.8877	J. Curtis House
4	493 Centre Street	BOS.8866	Mary E. Curley School
5	509 Centre Street	BOS.8887	Charles F. Curtis House
6	526 Centre Street	BOS.8878	A. Kingsbury; E. Seaverns House
7	602R Centre Street	BOS.8879	Captain Charles Hill House
8	629 Centre Street	BOS.8888	First Baptist Church Parsonage
9	633 Centre Street	BOS.8889	First Baptist Church
10	659 Centre Street	BOS.8890	Fire Engine Company #28
11	701-705 Centre Street	BOS.8891	William Fallon Commercial Block
12	707-711 Centre Street	BOS.8892	William Rooney Building
13	743-745 Centre Street	BOS.8895	Robert Seaver and Company
14	793 Centre Street	BOS.8896	Dr. Christopher Weld House
15	20 South Street	BOS.10165	Curtis Hall Municipal Building
16	61 South Street	BOS.10167	George S. Frost House

3.6 Socioeconomic and Cultural Environment

Jamaica Plain is an economically and racially diverse neighborhood of the City of Boston, with a population of approximately 38,000 people of whom more than 40 percent are identified as black or hispanic. It contains a diverse mixture of residents, including long term residents, newcomers, families, and single professionals. Centre Street is the primary commercial center for Jamaica Plain, containing various ethnic and specialty shops and restaurants. The focus of the study is on the restoration of light rail service for the Arborway Green Line running along South Huntington Avenue, Centre Street, and South Street. The study area includes the houses, community facilities and businesses that are located along South Huntington Avenue, Centre Street, and South Street. This section describes the population characteristics of the Arborway corridor study area and the public facilities located along the corridor. Existing businesses are also identified.



3.6.1 Methodology

This section provides current social and economic characteristics of the study area. Data is compiled at the census block level from the 2000 U.S. Census. The study area consists of seven census tracts, which include eleven census blocks. A census tract is defined by the U.S. Bureau of the Census (2000) as a small, relatively permanent statistical subdivision of a county in a Metropolitan Statistical Area (MSA), delineated by a local committee of census data users for the purpose of presenting decennial census data. Census tract boundaries normally follow visible features but may follow governmental unit boundaries and other non-visible features in some instances. A census block is a small area bounded on all sides by visible features such as streets, roads, streams, and railroad tracks. Census blocks that are partially located within the study area include Census Tract 811, Block Group 2 and 3; Census Tract 1201.1, Block Group 3; Census Tract 1201.2, Block Group 2; Census Tract 1202, Census Block 3; Census Tract 1204, Block Groups 3, 4, 5; Census Tract 1205, Block Group 3; and Census Tract 1207, Block Groups 1 and 2, as depicted in Figure 3.6-1A-E.



3.6.2 Population Characteristics

Since the 1990 U.S. Census, the Census Bureau has made some major census tract changes in Boston. In general, under-populated tracts were combined, and larger tracts were split. Within the study area, Census Tract 811 was modified and has different delineated borders from the tracts of the 1990 Census. In addition, Census Tract 1201 was split for the 2000 Census. These changes reduce the ability to directly compare population changes in census tracts from 1990 and 2000, however, where possible, they are presented in Table 3.6-1.

**Table 3.6-1
2000 Population**

Jurisdiction Census Block Group	Population 1990	Population 2000	1990-2000 % Change	Median Age
811 block 2	654	1,411	115.7	n/a
811 block 3	2,526	1,149	-54.5	n/a
1201.1 block 3	n/a	813	n/a	n/a
1201.2 block 2	n/a	787	n/a	n/a
1202 block 3	585	1,098	87.7	n/a
1204 block 3	888	814	-8.3	n/a
1204 block 4	1,963	1,826	-6.9	n/a
1204 block 5	1,419	1,441	1.5	n/a
1205 block 3	1,850	852	-53.9	n/a
1207 block 1	697	1,098	57.5	n/a
1207 block 2	<u>1,459</u>	<u>927</u>	<u>-36.5</u>	n/a
Corridor Subtotal	8861	12,216	37.9	
City of Boston	574,283	589,141	2.6	31.1

Source: 1990 U.S. Census; 2000 U.S. Census, www.census.gov.

Table 3.6-1 shows the varying gains and losses of population within the census block groups that comprise the study area. Census Group 1202, block 3 increased almost 88 percent, or 513 residents between 1990 and 2000, while Census Group 1205, block 3 decreased by 54 percent, or approximately 1,000 residents over the same period. The population of the study corridor (12,216) increased by 41 percent since 1990. In comparison, the City of Boston increased by 14,858 residents, or 2.6 percent between 1990 and 2000.

Age and ethnic characteristics for the study area population, based on the 2000 Census, are shown in Table 3.6-2.

Table 3.6-2
Age and Ethnic Characteristics

Jurisdiction	% Under 18	% Over 65	% Black	% Hispanic	% Asian American	% American Indian/ Alaskan Native
811 block 2	15.0	17.6	5.8	3.4	14.0	0
811 block 3	2.1	23.4	3.9	0.5	4.0	0
1201.1 block 3	17.6	6.6	2.6	1.2	4.5	0
1201.2 block 2	17.4	15.0	0	0.1	0.3	0
1202 block 3	6.1	10.4	3.1	1.2	1.7	0
1204 block 3	2.1	18.7	0.3	0.2	2.2	0
1204 block 4	12.0	2.8	1.7	3.9	1.2	0
1204 block 5	10.1	17.0	3.4	0.8	0.9	0
1205 block 3	28.5	5.6	1.1	6.7	1.2	0
1207 block 1	23.4	4.2	1.3	5.0	2.9	0
1207 block 2	4.3	21.6	0.9	1.0	2.4	0
Study Corridor	12.6	13.0	2.2	2.2	3.2	0
City of Boston	19.8	10.4	25.3	14.4	7.5	0.4

Source: 2000 U.S. Census; www.gov.org

As shown in Table 3.6-2, the percentage of the population in the study corridor under age 18 ranged from 2.1 percent to 28.5 percent. The population over age 65 ranged from 2.8 percent to 23.4 percent. The percentage of population in the study corridor under the age of 18 was slightly lower than that of the City of Boston (12.6 percent compared to 19.8 percent). The percentage of residents in Jamaica Plain over the age of 65 was slightly higher than the City of Boston, as a whole (13.0 percent).

During the 2000 Census, the City of Boston reported that 25.3 percent of its population was Black. In comparison, approximately 2.2 percent of the population of the study corridor is Black. Within the study area, Census Tract 811, block group 2 contains the highest percentage of the Black population, at 5.8 percent.

The percentage of the Hispanic population residing in Boston was 14.4 percent, higher than that reported for the study corridor, at 2.2 percent. Within the study area, the percentage of the Hispanic population ranged from 0.1 percent to 6.7 percent. The study area also has a lower population of Asian Americans than the city as a whole, ranging from 0.3 percent to 14.0 percent. Within the study area, as reported in the 2000 U.S. Census, there were no residents that identified themselves as having American Indian/Alaskan Native ethnicity.

As indicated in Table 3.6-3, the 2000 Census recorded median household income, per capita income, and persons in poverty for each census block group. Within the study

corridor, median household incomes and per capita incomes are generally higher than for the City as a whole. The study area has a lower percentage of persons in poverty than the City. Census Tract 1201.1 block 2 has the highest median incomes and lowest poverty rate, while Census Tract 1205 block 3 has the lowest incomes and highest poverty rate.

**Table 3.6-3
Income and Poverty Status¹**

Jurisdiction	Median Household Income	Per Capita Income	Persons in Poverty (1999)	
			Persons	%
811 block 2	\$29,464	\$16,858	259	18.3
811 block 3	\$43,188	\$20,606	87	7.6
1201.1 block 3	\$64,500	\$36,510	105	13.0
1201.2 block 2	\$73,750	\$34,005	14	1.8
1202 block 3	\$40,572	\$26,589	182	16.5
1204 block 3	\$48,472	\$32,819	73	8.9
1204 block 4	\$62,639	\$38,857	109	5.9
1204 block 5	\$49,531	\$31,528	236	16.4
1205 block 3	\$35,769	\$10,635	266	31.2
1207 block 1	\$38,519	\$17,440	255	23.4
1207 block 2	\$46,845	\$33,413	92	10.0
Study Corridor	\$48,477	\$27,205	1678	13.7
City of Boston	\$39,629	\$23,353	109,128	18.5

1. Source: U.S. Census, 2000; www.census.gov

The study area is comprised mainly of a combination of single family houses, multi-family houses, and apartments. Table 3.6-4 shows the number of occupied and vacant housing units within the study area, and number of households and families within the study area.

**Table 3.6-4
Housing and Households¹**

Jurisdiction	Housing Units			Households		Families	
	Total	Occupied	Vacant	Total	Persons per Household	Total	Persons per Family
811 block 2	634	98%	2%	621	2.13	234	3.07
811 block 3	427	97%	3%	415	1.62	89	2.46
1201.1 block 3	363	98%	2%	357	2.19	139	2.90
1201.2 block 2	341	98%	2%	333	2.19	157	2.94
1202 block 3	612	96%	4%	590	1.99	198	2.71
1204 block 3	431	99%	1%	426	2.09	148	2.86
1204 block 4	824	95%	5%	785	2.13	288	2.79
1204 block 5	677	99%	1%	699	1.95	226	2.67
1205 block 3	296	91%	9%	270	3.30	188	3.63
1207 block 1	424	95%	5%	401	2.65	626	3.44
1207 block 2	608	93%	7%	566	1.78	182	2.51
Study Corridor	5637	96%	4%	5463	2.2	2475	2.91
City of Boston	251,935	95%	5%	239,528	2.51	115,096	3.17

1. Source: U.S. Census, 2000; www.census.gov

As depicted in Table 3.6-4, the percent of occupied housing units within the study area is quite high, ranging from 91 percent to 99 percent (average 96 percent). The percentage of occupied housing in the City of Boston was similar to that of the study area, at 95 percent. The persons per household varied within the study area, from 1.62 to 3.30 with an overall average of 2.2. The persons per family also varied, from 2.46 to 3.44, with an average of 2.9. Household and family sizes are slightly lower than for the City of Boston as a whole.

**Table 3.6-5
Housing Characteristics¹**

Jurisdiction	Tenure			Median Rent	Median Value
	Vacancies	Owner	Renter		
811 block 2	2.1	25.3	74.7	\$709	\$137,200
811 block 3	2.9	26.7	73.3	\$917	\$275,000
1201.1 block 3	1.7	48.7	51.3	\$963	\$202,800
1201.2 block 2	2.4	56.1	43.9	\$1515	\$425,500
1202 block 3	3.7	28.8	71.2	\$905	\$136,500
1204 block 3	1.1	44.6	55.4	\$700	\$232,000
1204 block 4	5.0	44.7	55.3	\$1024	\$400,000
1204 block 5	1.2	34.7	65.3	\$731	\$471,400
1205 block 3	9.6	23.0	77.0	\$845	\$187,500
1207 block 1	5.7	29.4	70.6	\$963	\$225,000
1207 block 2	7.4	52.1	47.9	\$980	\$511,400
Study Corridor	3.9	37.6	62.4	\$932	\$291,300
City of Boston	4.9	32.2	67.8	\$803	\$190,600

1. Source: U.S. Census, 2000; www.census.gov

In 2000, the vacancy rate for the study area ranged from a low of 1.1 percent to a high of 9.6 percent. In 2000, the proportion of owner occupied housing in the study area ranged from a low of 23 percent to a high of 56.1 percent. Median rent within the study area ranged between \$700 to \$1515. Median housing values also varied greatly in the study area, from \$136,500 to \$511,400. The median value for housing as reported in the 2000 US Census was \$190, 600, for the City of Boston. This figure was below the housing value for most of the study area, and substantially below the average for the study corridor.



3.6.3 Community Facilities

Jamaica Plain offers both its residents and city-wide residents many community facilities. Community facilities within the study corridor are depicted on Figure 3.5-2A-E. The following describes the community facilities found within the study area.

Schools

The study area contains 2 elementary schools, a middle school, and a high school. The City on a Hill Charter School is a high school containing approximately 200 students, as of the year 2000. The Mary E. Curley School is a middle school containing

744 students, enrolled in the 1999-2000 school year. The James M. Curley Elementary School, located adjacent to the Mary E. Curley School contains 287 students, enrolled in the 1999-2000 school year. The Agassiz Elementary School is located at South Street and Child Streets, and it contains 800 students, enrolled in the 1999-2000 school year.

Libraries

There are 2 libraries within the study area and both are part of the Boston Public Library Network. The first, located on Centre Street, is the Connolly Branch Library. The Connolly Branch Library offers a large selection of popular books for children, and a large selection of Spanish books and magazines. The second library located in the study area is the Jamaica Plain Branch Library, located at the corner of South Street and Sedgwick Streets. It holds a large collection of local history books, travel guides, and a children's room.

Religious Facilities

There are 4 religious facilities located in the study area, including the First Baptist Church, located at the corner of Centre Street and Myrtle Street, the Unitarian Church, located at the corner of Centre Street and Eliot Street, St. Thomas Aquinas Church, located at South Street and Saint Joseph Street, and the Greater Community Baptist Church, located at the corner of South Street and Child Street.

Health Care Facilities

There are numerous health care facilities within the study area. Located at the corner of South Huntington Avenue and Heath Street is the Veterans Administration Hospital. Located on the opposite side of South Huntington Avenue and Heath Street is the Sherrell House, a nursing home. Located south of Sherrell House is the Home for Little Wanderers, a facility that houses children with various disabilities. Located adjacent to the Home for Little Wanderers is the Goddard House, a nursing home facility, and Mount Pleasant Home, another nursing home facility. Urban Medical Group, a medical clinic, is located at the corner of Centre Street and Beaufort Street.

Emergency Services

Division 2 Headquarters of the Boston Fire Department is located on Centre Street, in the middle of the study area. This fire station contains an Engine Company and a Ladder Company.

Parks

There is 1 community park within the study area. The South Street Mall is a tree lined park owned and maintained by the City of Boston Parks and Recreation Department. It includes community park benches and two public tennis courts.

Businesses

The main corridor of the study area contains a variety of businesses, catering to local residents, residents of the City of Boston, and other outlying regions. The main shopping district in Jamaica Plain is Centre Street. Located along either side of this street are numerous stores and restaurants. Businesses along Centre Street consist of neighborhood service type of establishments, namely pharmacies, hair salons, private doctor and dental offices, banks, insurance companies, dry cleaners, and realtors. In addition, Centre Street contains several southeast Asian restaurants, including Thai, Vietnamese, and Indian foods. This part of the study area is very densely developed, offering street level shopping for both nearby residents and in-town residents. Other businesses located on Centre Street include a grocery store, arts and crafts store, gas station/auto repair establishments, and medical offices.

South Huntington Avenue and South Street contain more institutional establishments, including the Veterans Hospital and several nursing homes. South Street contains additional hair salons, insurance and law offices, neighborhood laundromats, and a few pub-style restaurants.



3.6.4 Environmental Justice

The Secretary of the EOEA recently issued the EOEA's Environmental Justice (EJ) Policy, which states that it is the policy of the EOEA that "environmental justice" be an integral consideration in the implementation of all EOEA programs. Environmental Justice is based on the principal that all people have a right to be protected from environmental pollution and to live in and enjoy a clean and healthful environment. Environmental Justice Policy pursues equal justice and equal protection under the law for all environmental statutes and regulations without discrimination based on race, ethnicity, and or socioeconomic status. The policy applies to governmental actions at all levels – local, state and federal, as well as private industry activities. Environmental Justice also includes a guarantee of equal access to relief and meaningful community participation with government and industry decision-makers and embraces the right to a safe, healthy, productive, and sustainable environment for all, where "environment is considered in its totality to include the ecological (biological), physical (natural and built), social political, aesthetic, and economic environments."

Environmental Justice populations are those segments of the population that the EOEA considers likely to be most at risk of being unaware of or unable to participate in environmental decision-making or to gain access to state environmental resources. Pursuant to EJ policy, the EOEA will enhance opportunities for residents to participate in Environmental Justice populations are defined as neighborhoods, using the U.S. Census Bureau census block groups, that meet one or more of the following criteria:

- The median annual household income is at or below 65 percent of the statewide median income for Massachusetts;
- 25 percent of the residents are minority;
- 25 percent of the residents are foreign born;
- 25 percent of the residents are lacking English language proficiency.

MASSGIS mapping developed by the EOEA indicates that the Jamaica Plain area meets the criteria of an EJ Population.

Impact Assessment

This chapter outlines the methodology that will be used to assess the project's impacts on the neighborhood and to identify mitigation measures that will be incorporated into the project design. The Environmental Impact Report (EIR) prepared for this project will provide the detailed impact assessment and mitigation commitments.

4.1 Transportation

Building upon the existing conditions described in Section 3.1, the traffic and parking evaluation will use one of two potential simulation software packages (VISSIM or PARAMICS) and the data previously collected to simulate existing corridor conditions and calibrate present operating parameters, such as delay and travel time. This will serve as a baseline model for the identification and evaluation of potential traffic and parking impacts associated with restoration of LRT service. Both VISSIM and PARAMICS allow for microscale simulation of transit and LRT facilities in a mixed used environment including other transportation and traffic components. Currently, the BTM accepted Highway Capacity Manual (HCM) and LOS software packages (e.g., Synchro) do not allow for a comprehensive representation or evaluation of transit facilities.



4.1.1 Station Evaluation

Station locations presented in this ENF were developed through an extensive public participation process that included several meetings of the ARRPAC and two broad community public meetings, which resulted in consensus as to the locations of the Arborway stations. These initial station locations will be further refined and evaluated by type, i.e., near-side, far-side, mid-block, and configuration, i.e., travel lane or curb-side. The process of potential station evaluation and location will be completed both qualitatively and quantitatively from a traffic perspective, including identifying potential impacts to vehicles delay and travel time (cars and trolleys), pedestrians and parking. Traffic modeling and simulation will only be completed for the selected corridor-wide station design and location alternative established through coordination with the MBTA, City of Boston and public participation process.

An evaluation of traffic control operational alternatives will also be conducted at this time. Control strategies will be evaluated in conjunction with the inventory of currently available signal technologies and hardware to identify control strategies that can be utilized to mitigate the impacts to travel time and delay associated with restoration of the Arborway service.



4.1.2 Operational (Long-Term) Impacts

The long-term operational impacts of Arborway streetcar service on corridor traffic will be evaluated in the EIR. Traffic characteristics on the corridor will be evaluated from a delay and travel time perspective, and the impacts of the proposed design will be identified utilizing the selected software simulation package. This will be based on simulation of transit vehicle operating parameters (i.e., vehicle type, headway, dwell time, etc.) incorporated into the traffic simulation model. The future No-Build condition will include the Arborway Bus Maintenance Facility traffic.

The results of this analysis will afford a comparison to existing conditions with regard to vehicle and pedestrian delay and corridor travel time. It will also allow a visual evaluation of anticipated trolley and vehicle interaction. Implementation of alternative control strategies will be tested utilizing the simulation model to establish the most effective mitigation strategy to reduce corridor delay and travel time.



4.1.3 Construction (Short-Term) Impacts

In addition to long-term impacts to the traffic and parking environment, the EIR will also identify and evaluate potential strategies to alleviate and mitigate short-term (i.e., construction-related) impacts. Traffic management, maintenance of parking and business access will be reviewed in developing construction staging plans, including work zones and hours of operation. This evaluation will be completed based on general area knowledge, standard traffic engineering methodologies and a qualitative review of alternatives available to corridor traffic during construction.

4.2 Noise

A general noise assessment of the Arborway corridor will be conducted using established FTA methodology. This will include an impact assessment section in which the noise effect of the re-introduction of Green Line service on the surrounding community is estimated, and a discussion of potential noise mitigation measures at locations where they appear necessary and practicable.



4.2.1 FTA Noise Impact Criteria

Noise impact criteria have been developed by the FTA for use in evaluating impact from transit projects. They are described in detail in the manual *Transit Noise and Vibration Impact Assessment*, (DOT-T-95-16; FTA, 1995). Noise criteria are applied to three categories of land use with varying degrees of sensitivity to noise. Generally, in evaluating the potential for a noise impact from a proposed project, the L_{eq} is established for the peak traffic hour when noise levels are expected to be the highest. Where there is nighttime occupancy of noise sensitive buildings such as residences, hotels and hospitals, the "Day-Night" sound level (L_{dn}) is used to assess noise impacts.



4.2.2 Impact Assessment Methodology

An impact will be assessed based on the comparison of the existing noise levels and the predicted noise level at a given noise sensitive area, in terms of either the L_{dn} or L_{eq} descriptors assigned for the appropriate land use category. This comparison will be completed by using the FTA guidelines, which define noise level impacts for transit projects.

The steps in conducting the general noise assessment will include the following:

- Identify specific noise sensitive receptors in the vicinity of the proposed alignment;
- Determine the distance from the receptor to the centerline of the LRT tracks or the center of the transit stations or yard and shop buildings;
- Identify the appropriate land use category (1, 2, or 3, as discussed in section 3.2) for each sensitive area;
- Estimate the existing noise level for each sensitive area along the project corridor based on the measurement data (using the most conservative measured noise level for the land use's hours of activity);
- For each of the noise sensitive areas along the Arborway corridor, the project-related noise level based on the LRT operating data will be determined using the noise calculation methods contained in the FTA guidance manual.
- Compare the estimated project noise levels with the FTA noise criteria to determine the potential for noise impact.



4.2.3 Project-Related Noise Sources

Future project-related noise levels will be computed by using base reference source noise levels (SEL) and assumptions for transit operations.

The projected noise levels are based on operations of Green Line streetcars on well-maintained, at-grade embedded track. Where the track has curves or there is special track work, such as switches, the noise levels can be higher. At tighter curves, noise levels can be substantially higher due to "wheel squeal."

The analysis will take into effect special trackwork with gaps in the rail (e.g., track switches or jointed track) that can generate higher noise levels than those created by trains running on continuously welded rail. The relationship between continuously welded rail noise and switch or jointed noise levels depends on several factors such as train speed, and distance to receptor.

4.3 Vibration

The vibration impact analysis presented in the EIR will use FTA methodology and will identify vibration mitigation measures.



4.3.1 FTA Vibration Impact Criteria

The FTA has developed criteria for assessing potential vibration impacts related to transit projects. The criteria contained in the *Transit Noise and Vibration Impact Assessment* manual (DOT-T-95-16; FTA, 1995), shown in Table 4.3-1, are based on community reaction to transit-related vibration and the potential for adverse effects on vibration-sensitive activities and processes. The criteria identify intensities of ground vibration that may be considered significant and, thus, require consideration of mitigation and abatement measures. The average person can just barely perceive vibration velocity levels below 65 VdB.

Table 4.3-1
FTA Ground-Borne Vibration Impact Criteria for Annoyance

Receptor Land Use		RMS Vibration Levels (VdB)	
Category	Description	Frequent Events	Infrequent Events
1	Buildings where low vibration is essential for interior operations	65	65
2	Residences and buildings where people normally sleep	72	80
3	Daytime institutional and office use	75	83
Specific Buildings	TV/Recording Studios/Concert Halls	65	65
	Auditoriums	72	80
	Theaters	72	80

Source: *Transit Noise and Vibration Impact Assessment - Final Report*, Federal Transit Administration, Washington, D.C., April 1995.

Where vibration is intermittent (e.g., a transit train pass-by) human annoyance from ground vibration is somewhat dependent on the number of vibration events that occur during a typical 24-hour period. The FTA manual presents two categories of criteria for infrequent and frequent events, respectively. “Frequent events” is defined as more than 70 vibration events per day. Because the proposed total daily light rail operations are more than 70 events (pass-bys) per day at any given location, the frequent criteria limits of 72 VdB and 75 VdB will be used to assess impacts for residential and institutional receptors, respectively, in the EIR.



4.3.2 Impact Assessment Methodology

Potential vibration impacts for the Arborway Restoration Project will be determined using two methods, the Vibration Screening Procedure and the General Vibration Assessment methods contained in the *Transit Noise and Vibration Impact Assessment* (FTA 1995). Using this approach, the FTA Vibration Impact Criteria will be used to identify locations where potential impacts might occur based on existing land use categories. The analysis will consider non-revenue trips as well as scheduled trips.

Ground vibration is generated by the wheel/rail interface and is influenced by wheel/rail roughness, transit vehicle suspension, train speed, track construction, location of switches and crossovers and the geologic strata underlying the track. The vibration levels likely to be generated by the project are based on data contained in the FTA manual “Generalized Ground Surface Vibration Curves.” Vibration from a passing LRT train moves through the geologic strata into building foundations, causing the building to vibrate. The main concerns are annoyance to building

occupants and interference with vibration-sensitive operations/equipment. Any damage, including cosmetic damage to buildings from LRT ground vibration, is highly unlikely.

The FTA vibration propagation data provide an estimate of vibration levels as a function of distance from the tracks. No adjustments will be utilized in the Screening Procedure. The Screening Criteria are very conservative and will be used to exclude land uses from further analysis.

For potentially affected sensitive land use located within the Screening Procedure criteria distance, FTA's more detailed, second tier General Vibration Assessment will be performed. In this analysis, adjustments to the impact criteria (level vs. distance) are used to account for train speed, soil type and building/foundation type. Further adjustments of the criteria distances may be made based on proposed vibration abatement or mitigation measures. These additional adjustments will be not made for purposes of impact assessment, but will be evaluated as part of the mitigation analysis. Impacts will be based on potential for exceedance of the FTA vibration impact criteria as represented by the General Vibration Assessment criterion distances. Vibration impacted receptors will be summarized by category and location.

Some land uses may have a special or increased sensitivity to ground vibration. At those locations where vibration sensitive equipment is used, such as hospital and medical facilities, historic properties, and high tech manufacturing and testing sites, there may be the potential for additional or more detailed studies, as needed

Project-specific assumptions for the General Vibration Assessment will include:

- **Speed.** Average train speeds are 15 to 30 miles per hour (mph); 30 mph will be used for analysis;
- **Soil type.** The vibration propagation characteristics used in this analysis are based on the data presented in the FTA manual and the geotechnical data from the soils survey for the Arborway corridor. Based on this data, the characteristic vibration propagation for "non-efficient" soils will be used;
- **Building/foundation type.** All categories of sensitive receptors will be used wood frame construction as a worst case condition;
- **Abatement and Mitigation Measures.** No special features/procedures will be assumed; and
- **General.** Assumptions include that all track consists of continuously welded rail in good condition ;wheels are in good condition; and track is at grade with adjacent land use. Specially-designed crossovers and other special track work may be used to avoid increased ground vibration.

Impact assessment will also use a comparison of the vibrational effects of buses vs. LRVs. Vibration source level measurements were made of Green Line streetcars and

MBTA buses along Huntington Avenue on the existing Heath Street Green Line near the Arborway corridor. Vibration levels were measured at a distance of 40 feet for several buses and streetcars that passed along the corridor at a similar location and speed in front of an accelerometer mounted on a stake in the ground, as done for the vibration traverses. The measurement results are shown in Table 4.3-2. Since the speeds and distances from the accelerometer of the Green Line streetcars and MBTA buses were nearly identical for all pass-bys, it was possible to determine the difference in ground vibration velocity caused by the two transit vehicle types by directly subtracting the average recorded vibration levels.

The results of the existing Green Line measurements (Table 4.3-2) show that Green Line streetcars in general have peak velocity levels about 23 VdB higher than MBTA bus pass-bys. These results (corrected for speed) will be used to directly estimate the potential vibration levels at any location along the corridor for which existing vibration levels are known for MBTA bus pass-bys.

Table 4.3-2
Existing Green Line and MBTA Bus Vibration Levels, Huntington Avenue

Vehicle Type	Measured Lmax (VdB)	Pass-by Speed (mph)
MBTA Bus	53.0	20
MBTA Bus	54.0	20
MBTA Bus	53.3	20
MBTA Bus	53.3	20
Green Line Train	76.4	20
Green Line Train	75.8	15
Green Line Train	76.5	20
Green Line Train	76.7	20

4.4 Air Quality

The air quality study presented in the EIR will identify and quantify the air quality benefits of the Arborway Restoration Project. The study will quantify the benefits resulting from the proposed project including, the replacement of the Route 39 bus service, the elimination of the diesel bus service that connects the Green Line from the Heath Street Station to the Forest Hills Station. Approximately 90 diesel bus one-way trips per day will be removed from service. The study will also determine the air quality benefits resulting from increased transit ridership that is anticipated to occur as a result of the proposed project. The EIR will also consider and quantify any increases in the emission of pollutants of concern (CO, NO_x, VOC) caused by increased traffic congestion or delays following the restoration of light rail service on the Arborway corridor.

The Massachusetts DEP incorporated the Arborway Restoration Project into the State Implementation Plan (SIP) in the Code of Massachusetts Regulations (CMR) Title 310 Chapter 7.36 of the Air Pollution Regulations “Transit System Improvements”. The DEP regulations specifically require that the project be implemented to reduce regional emissions of nonmethane hydrocarbons (VOCs), CO, and nitrogen oxides (NO_x), and estimate that the Arborway Restoration Project will reduce volatile organic compound (VOC) emissions by 6.22 kilograms per day, carbon monoxide (CO) emissions by 98.49 kilograms per day.

The air quality study will be conducted in compliance with EPA and Massachusetts Department of Environmental Protection (DEP) guidelines. It will include a mesoscale (regional) analysis of benefits of the proposed light rail operations and a microscale (localized) analysis of selected intersections in the vicinity of the proposed stations. These analyses will be conducted for the existing and future year (2008) conditions to demonstrate that the proposed project complies with the 1990 Clean Air Act Amendments (CAAA) and Massachusetts State Implementation Plan (SIP) criteria.



4.4.1 Mesoscale Analysis

The mesoscale analysis will evaluate the emission benefits based upon the elimination of an existing diesel bus service and the addition of new transit riders within the MBTA system. The emission reductions will be calculated based upon the trip characteristics of the buses, such as VMT and speeds. The mesoscale analysis will calculate the total emission reductions due to the implementation of the

Arborway Restoration Project and compare them to the emission estimates in the DEP regulations.

The mesoscale analysis will be based on ridership analyses developed by CTPS, using the CTPS travel demand model. The model is based on a set of computer-based supply and demand models, and has been used extensively for a wide range of projects including the South Boston Piers Transitway, the Urban Ring study, the Worcester Commuter Rail Extension, and the Rail Link study. The primary inputs are study area population, employment, household and socioeconomic characteristics, parking costs, transit fares, automobile operating costs, tolls, and highway and transit levels of service. The model simulates travel on the entire Eastern Massachusetts transit and highway system, and contains all MBTA rail and bus lines and all private express bus carriers. The model contains service frequency, routing, travel time, and fares. The model calculates the portion of the total trips from each traffic analysis zone (TAZ) that would use the transit system, based on travel times, number of transfers required, and costs associated with the transit and auto options. Auto ownership and household size are also included in the model.



4.4.2 Microscale Analysis

The microscale analysis will evaluate the CO impacts from project-related traffic on local intersections. The EPA's CAL3QHC Version 2 computer model will be used to predict CO concentrations at intersections. The intersections selected for microscale analysis will be selected based upon the procedures outlined in the EPA "Guidelines For Modeling Carbon Monoxide From Roadway Intersections." The CAL3QHC dispersion model will calculate the air quality impacts from vehicles in both free-flow and idle operation by creating a three-dimensional model that represents the roadway and receptor geometry. Traffic, emission, and meteorological data will be entered into the model to predict maximum 1- and 8-hour CO concentrations at the receptor locations for comparison to the NAAQS.

The vehicle emission factors that will be used in the mesoscale and microscale analyses will be obtained using the EPA MOBILE6 computer model. These MOBILE6 emission factors will be adjusted to reflect Massachusetts-specific conditions, such as state vehicle registration age data, the Statewide Inspection and Maintenance Program, and the Stage II Vapor Recovery System.

4.5 Cultural Resources

A review of the State and National Registers of Historic Places and the MHC's *Inventory of Historic and Archaeological Assets of the Commonwealth* revealed numerous historic properties within and immediately adjacent to the project APE (the area within 100 feet of the centerline). The EIR will include an assessment of impacts to properties included in the State Register of Historic Places. Information regarding station locations, station designs, infrastructure improvements (sidewalks, traffic signals, etc.), as well as the results of the noise and vibration analyses will all be factors in assessing impacts to historic resources.

The MBTA will consult with the Massachusetts Historical Commission and the Boston Landmarks Commission in applying the "criteria of adverse effect" (950 CMR 71.07 (2)(b)). If it is determined that the project will result in an adverse effect to State Register listed properties, alternatives to avoid, minimize or mitigate those effects will be considered. If adverse effects cannot be avoided, or minimized adequately, appropriate mitigation will be stipulated in the form of a Memorandum of Agreement (MOA) in accordance with 950 CMR 71.00.

Mitigation Measures

This chapter outlines the methodology that will be used to identify mitigation measures that will be proposed for the project design. The Environmental Impact Report (EIR) prepared for this project will provide the detailed mitigation commitments and a Proposed Section 61 Finding prepared in compliance with Massachusetts General Laws, Chapter 30, Section 61. MGL Ch. 30 § 61 requires state agencies and authorities to review, evaluate, and determine the impacts on the natural environment of all projects or activities requiring state financing or permits, and to issue findings describing the environmental impacts, if any, and certifying that all feasible measures have been taken by the project proponent to avoid or minimize these impacts.

5.1 Introduction

The MBTA has established a mitigation policy that it uses consistently on all projects governed by MEPA review. The basic rule of thumb regarding mitigation of impacts resulting from the implementation of MBTA construction projects and other actions is that “if the MBTA breaks it, we will fix it.” This policy is applicable to both the on-site and off-site impacts. However, not all impacts cause “breakage.”

For example, with respect to traffic impacts resulting from the project, some additional traffic at intersections and on roadway segments may not result in a significant impact, especially if the intersection or roadway will still operate at an acceptable level of service (LOS). If project related traffic degrades the level of service from LOS D or better to LOS E or LOS F, corrective action will be proposed. If an existing condition reveals an unacceptable LOS for an intersection or roadway segment, and the addition of project related generated traffic materially worsens that condition, every reasonable effort will be made to correct the problem created by the additional burden, generally in cooperation with the City of Boston Traffic Department or the MDC according to jurisdiction. The Mitigation Policy means not degrading the existing level of service in the project area, though often traffic mitigation could result in improvements better than the original LOS.

5.2 Traffic

The physical restraints of the curb-to-curb widths of the corridor present the MBTA with a significant design and operational challenge: to accommodate pedestrians, bicyclists, motorists, parking spaces, and the LRV trains within the narrow corridor. The traffic and parking evaluation will identify the traffic and parking impacts of the Arborway Streetcar Restoration project and will develop a strategy for mitigating those impacts. The strategy will address the loss of parking spaces, the effects of double-parking, emergency vehicle access, and anticipated impacts to vehicular flow and congestion, pedestrians, bicycles, and transit services associated with proposed station locations and Green Line operations.

Mitigation measures will be studied in the EIR. These measures include:

- Creating a one-way traffic flow system on Centre Street and/or South Street
- Eliminating parking on one or both sides of narrow or congested portions of Centre or South Streets
- Creating a pedestrian mall on sections of the corridor
- Emergency response controls to reduce or eliminate light rail vehicles on the corridor in the event of an emergency (turn or hold vehicles at Heath Street or Forest Hills)
- Transit system control parameters (headways, dwell times, consist size)
- Traffic signal coordination options (priority or pre-emption control)
- Redesign on-street parking to optimize capacity and access to businesses
- Constructing new parking lots or garages on or adjacent to Centre Street, in the vicinity of new transit stations

Potential construction mitigation measures include:

- Designate alternative routes, temporary street closures, or temporary one-way traffic patterns
- Designate alternative pedestrian and bicycle routes and crossings
- Identify measures to maintain delivery access to businesses

5.3 Noise and Vibration

Noise and vibration impacts resulting from the restoration of Green Line Streetcar operations are evaluated in terms of Federal Transit Administration (FTA) criteria, supplemented by the Massachusetts DEP noise policy. Project generated noise that is considered highly annoying for a given land use category or that results in an increase of more than 5 dBA will be considered for noise abatement measures. Site specific evaluations will address potential control measures that could include a strictly enforced equipment maintenance program, sound barriers, etc. Although no vibration induced damage from train operations is predicted, ground borne vibration generated by Green Line trains will result in the increase of vibration events per day, rather than higher levels. Where (depending on land use category) the increase in vibration events is considered to be significant, potential mitigation measures could include a strictly enforced equipment maintenance program and the installation of ballast mats.



5.3.1 Noise Mitigation

The FTA guidance manual states that mitigation must be considered for any site that falls within the impact range, and mitigation measures should be employed if they are feasible and reasonable. The detailed noise analysis will evaluate effective mitigation methods that would eliminate or reduce potential noise impacts. In addition, the detailed assessment will evaluate specific operational characteristics, such as wheel squeal, on nearby receptors. Mitigation measures may include the use of ballast along the tracks, which can reduce noise by up to 3 dB.

Sound insulation can also be provided at the sensitive receptors and has a varied sound reduction effect depending on the type of building construction and methods employed. The EIR will identify specific mitigation measures and the locations, if any, where these will be used.

Every reasonable attempt will be made to minimize construction noise impacts. Construction noise control is accomplished by the use of quiet equipment and procedures. Noise guidelines will be incorporated into the construction documents and will be in conformance with local, state and federal statutes. Specific noise control measures will be reviewed during detailed engineering design and area negotiated as part of the construction permitting process. Noise specifications will be enforced through a program of field inspection and compliance review.

Most construction will occur during the normal workday. Under special circumstances, where traffic interruptions have to be minimized, night work may occur. During these conditions, unusually noise activities will be scheduled during daytime hours to minimize noise impacts to residential areas during periods of rest and sleep.



5.3.2 Vibration Mitigation

Where the impact assessment identifies potential vibration impacts, the following “standard” abatement/mitigation measures will be examined to see if they provide sufficient vibration attenuation to reduce vibration levels:

- Ballast mat on top of a concrete pad in ballast and tie track
- Mitigation with the same attenuation as a ballast mat for embedded track
- High resilience direct fixation rail fasteners

Preliminary projections indicate that most vibration impacts could be mitigated with the standard mitigation described above. Special abatement/mitigation will be further evaluated when the final alignment and building-specific vibration criteria are defined. Potential measures to mitigate vibration impacts could include the following, more specific measures:

- Optimization of wheel and rail profiles in conjunction with regular wheel truing and rail grinding;
- Installation of ballast mats. (Ballast mats have been used on a number of transit systems, and they are effective at attenuating vibration at frequencies greater than about 30 Hz);
- Special low-vibration special trackwork such as crossovers (“frogs”) to prevent increased vibration;
- High-resilience rail fasteners (they are effective at attenuating vibration at frequencies greater than about 40 Hz);
- Resiliently supported ties (they provide good low frequency vibration attenuation); and
- Floating slab trackbed where highly vibration-sensitive use is located very near to the tracks.

5.4 Air Quality

The project is proposed as mitigation for regional (mesoscale) air quality conditions, and is anticipated to reduce regional emissions of CO, NO_x, VOCs, and other contaminants. Construction may result in emissions of NO_x, sulfur oxides (SO_x), CO, and particulate matter. Emissions produced during construction are short-term and

not generally considered significant. Fugitive dust emissions are proportional to the amount of earth disturbance and the length and speed of travel on unpaved roads. Very little earth will be moved for the reconstruction of the Arborway Streetcar system. However, substantial quantities of ballast must be moved and distributed, and portions of the roadways will be unpaved for short periods. Any impact from fugitive dust particles will be of short duration and localized.

The MBTA is committed to mitigating adverse effects of dust during construction and reducing emissions from construction equipment. The MBTA has developed a set of standards for retrofitting construction equipment to reduce the emissions of particulates and NOx from construction equipment. The MBTA will use these guidelines in the preparation of construction plans and specifications so that the contractor will be required to use equipment fitting these guidelines.

Appendices

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- Appendix A: Tables
 - Appendix B: Figures
 - Appendix C: Public Participation
 - Appendix D: Correspondence

Appendix A—Tables

Table 3.1-1
Intersection Accident Summary – 1998 through 2000

	South Huntington Avenue at:						Centre Street at:			South Street at:				
	Huntington Avenue	Heath Street	VA Hospital	Bynner Street	Perkins Street	Centre Street and Boylston Street	Green/Myrtle Street	Thomas Street	South Street and Eliot Street	Carolina Avenue and Custer Street	Child Street	McBride Street	Arborway	New Washington Street
Year														
1998	8	3	1	2	5	5	9	5	4	4	0	0	16	21
1999	5	1	0	0	7	1	1	1	6	3	0	1	18	19
2000	<u>5</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>5</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>15</u>	<u>16</u>
Total	18	6	1	3	17	10	13	8	15	10	0	1	49	56
Collision Type														
Angle	7	3	0	2	8	1	6	2	5	3	0	0	16	31
Head-on	0	0	0	0	1	0	0	1	1	1	0	0	1	2
Rear-end	9	0	1	0	5	5	4	2	5	2	0	1	20	8
Unknown	<u>2</u>	<u>3</u>	<u>0</u>	<u>1</u>	<u>3</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>4</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>12</u>	<u>15</u>
Total	18	6	1	3	17	10	13	8	15	10	0	1	49	56
Severity														
Hit and Run	2	0	0	1	1	0	0	0	0	1	0	0	4	6
Injury Accident	9	3	0	2	9	4	4	3	10	1	0	0	23	23
Property Only	<u>7</u>	<u>3</u>	<u>1</u>	<u>0</u>	<u>7</u>	<u>6</u>	<u>9</u>	<u>5</u>	<u>5</u>	<u>8</u>	<u>0</u>	<u>1</u>	<u>22</u>	<u>31</u>
Total	18	6	1	3	17	10	13	8	15	10	0	1	49	56
Time of Day														
7:00 AM – 9:00 AM	1	0	0	0	5	2	1	1	1	1	0	0	5	9
9:01 AM – 3:59 PM	6	5	1	1	8	2	4	6	3	5	0	1	24	30
4:00 PM – 6:00 PM	4	0	0	1	0	4	3	0	4	1	0	0	9	5
6:01 PM – 6:59 PM	<u>7</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>4</u>	<u>2</u>	<u>5</u>	<u>1</u>	<u>7</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>11</u>	<u>12</u>
Total	18	6	1	3	17	10	13	8	15	10	0	1	49	56
Day of Week														
Monday-Friday	13	5	1	2	14	7	10	5	12	7	0	1	38	38
Saturday-Sunday	<u>5</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>11</u>	<u>18</u>
Total	18	6	1	3	17	10	13	8	15	10	0	1	49	56
Pavement Conditions														
Ice	1	0	0	0	1	1	0	0	0	0	0	0	1	0
Dry	12	4	0	2	13	4	10	7	11	5	0	1	1	0
Wet	5	2	1	1	0	4	3	1	4	5	0	0	32	39
Snowy	0	0	0	0	0	1	0	0	0	0	0	0	11	13
Other	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Unknown	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>4</u>	<u>1</u>
Total	18	6	1	3	17	10	13	8	15	10	0	1	49	56
MassHighway Crash Rates	0.44	0.25	0.07	0.14	0.75	0.5	0.45	0.45	0.54	0.58	0	0.06	1.32	1.40

Appendix B— Figures



Source: USGS Quadrangles Newton, Boston South

Arborway Streetcar Restoration



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Project Location

Figure 1.2-1



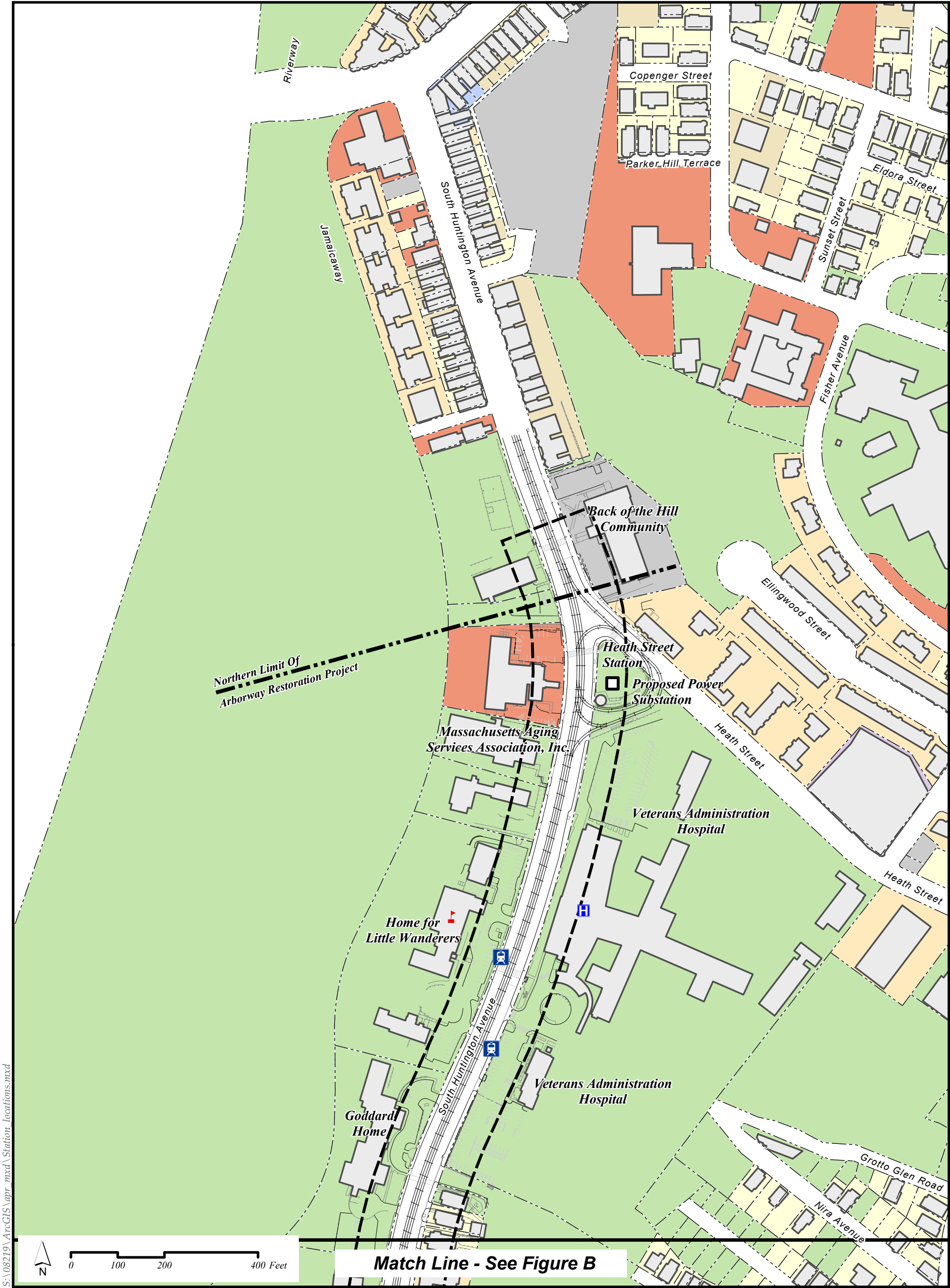
Arborway Streetcar Restoration



Massachusetts
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Typical View, Centre Street

Figure 1.2-2



S:\08219\ArcGIS\apr-mxd\Station Locations.mxd



Massachusetts
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Authority

Arborway Restoration Project

Legend

- Boston Fire
- Boston Police
- Hospital
- School

- Direction of One Way Traffic Flow
- Proposed Stations
- Study Corridor

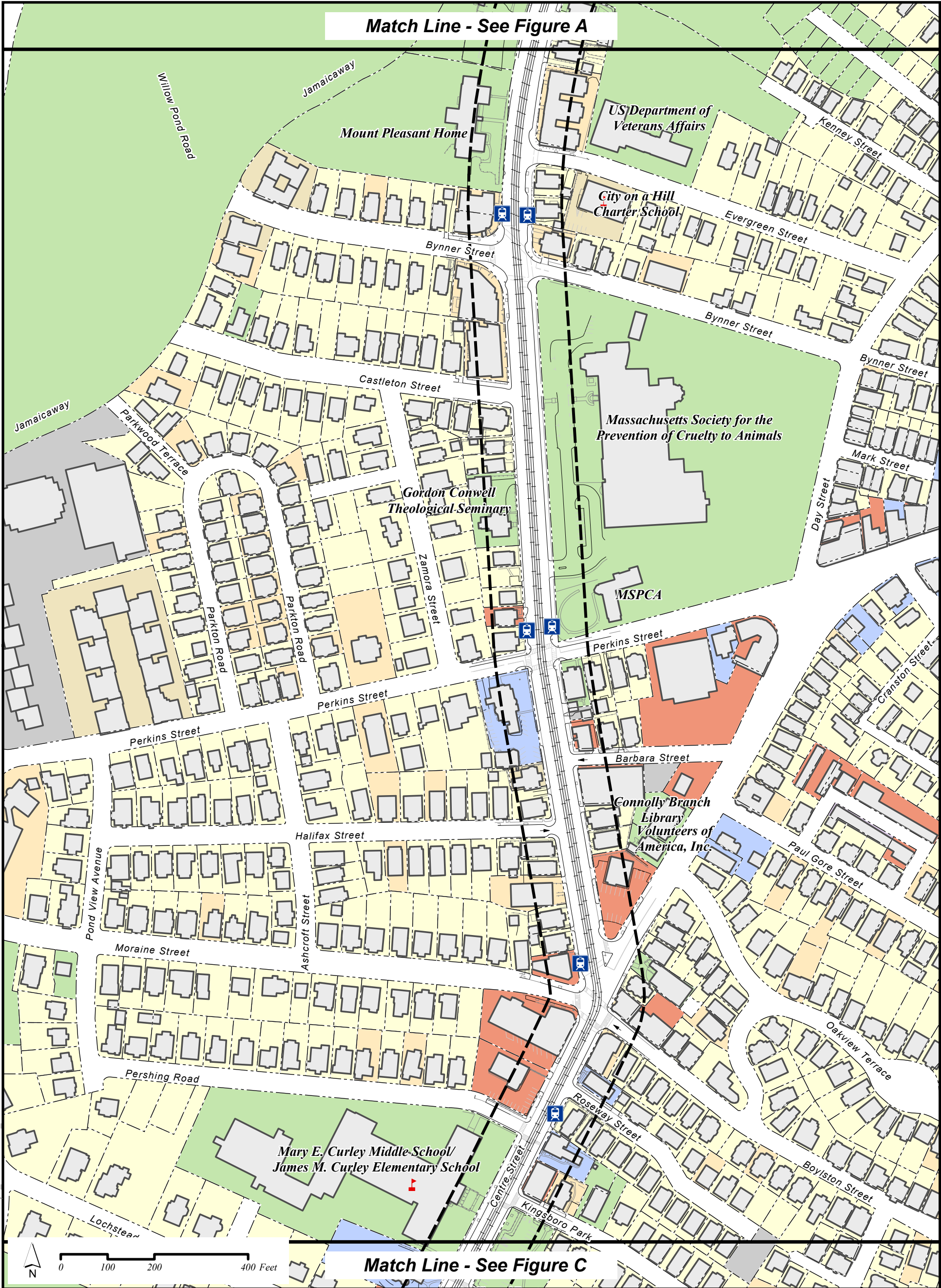
- Commercial
- Industrial
- Multiple Use
- Residential
- Apartment

- Condominium
- Tax Exempt
- Undefined

Figure: 1.3-1 A

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002

Match Line - See Figure A



Match Line - See Figure C

Arborway Streetcar Restoration



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Arborway Restoration Project

Figure: 1.3-1 B

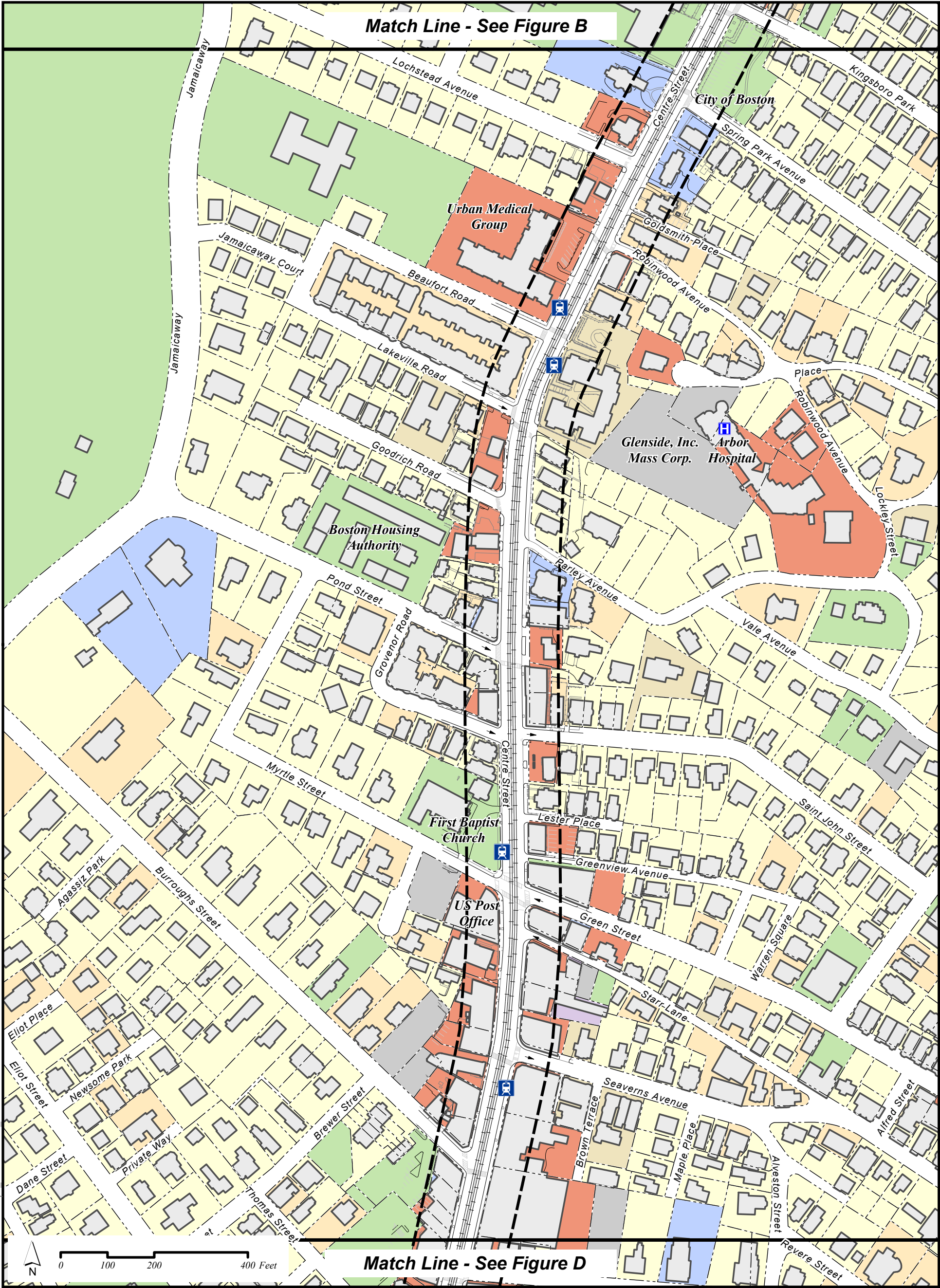
Legend

- Boston Fire
- Boston Police
- Hospital
- School

- Direction of One Way Traffic Flow
- Proposed Stations
- Study Corridor

- Commercial
- Industrial
- Multiple Use
- Residential
- Apartment
- Condominium
- Tax Exempt
- Undefined

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002



Massachusetts
Bay
Transportation
Authority

Arborway Restoration Project

Legend



Boston Fire



Boston Police



Hospital



School



Direction of One Way
Traffic Flow



Proposed Stations



Study Corridor



Commercial



Industrial



Multiple Use



Residential



Apartment



Condominium



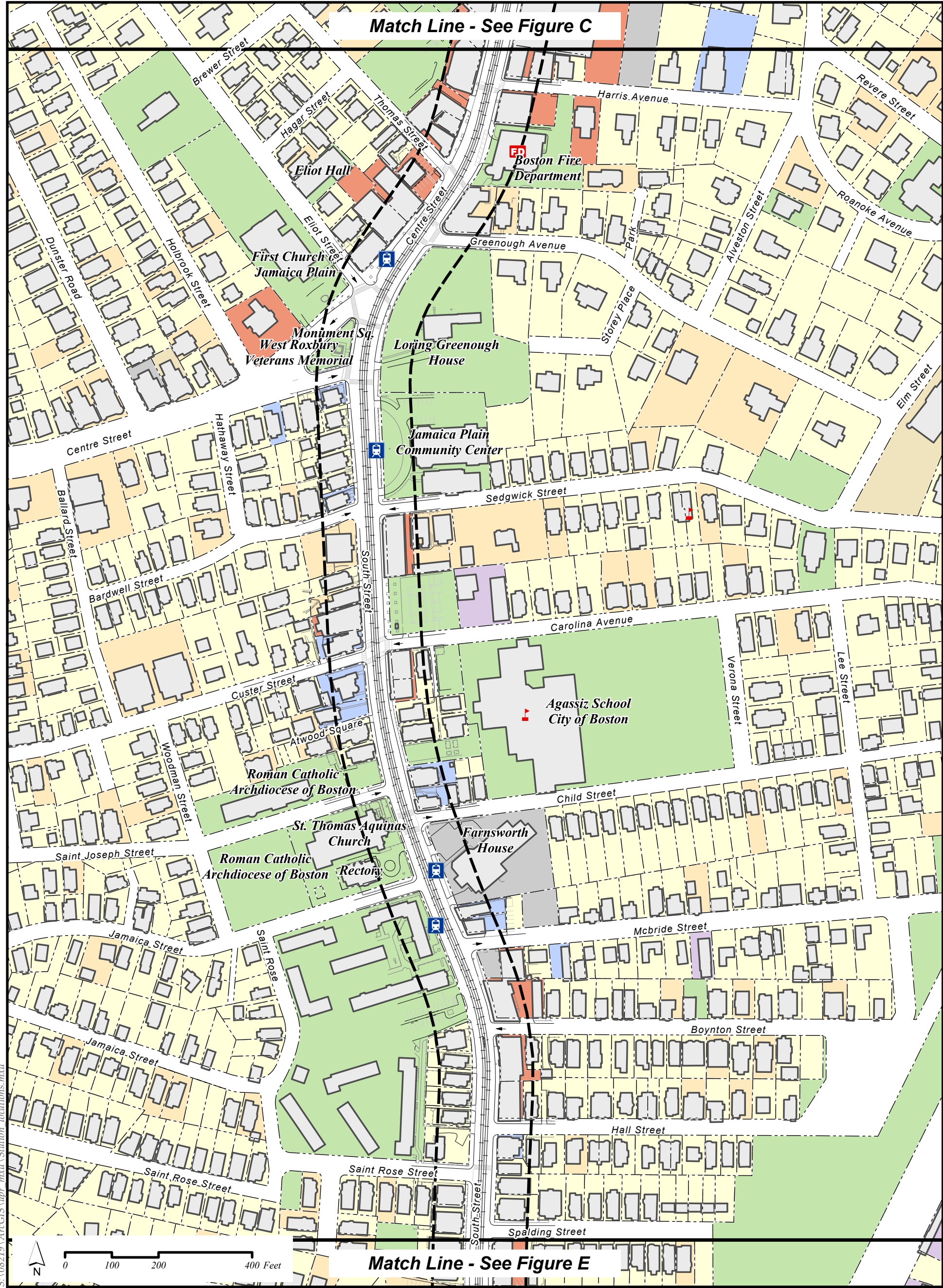
Tax Exempt



Undefined

Figure: 1.3-1 C

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002



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Massachusetts
Bay
Transportation
Authority

Arborway Restoration Project

Figure: 1.3-1 D

Legend

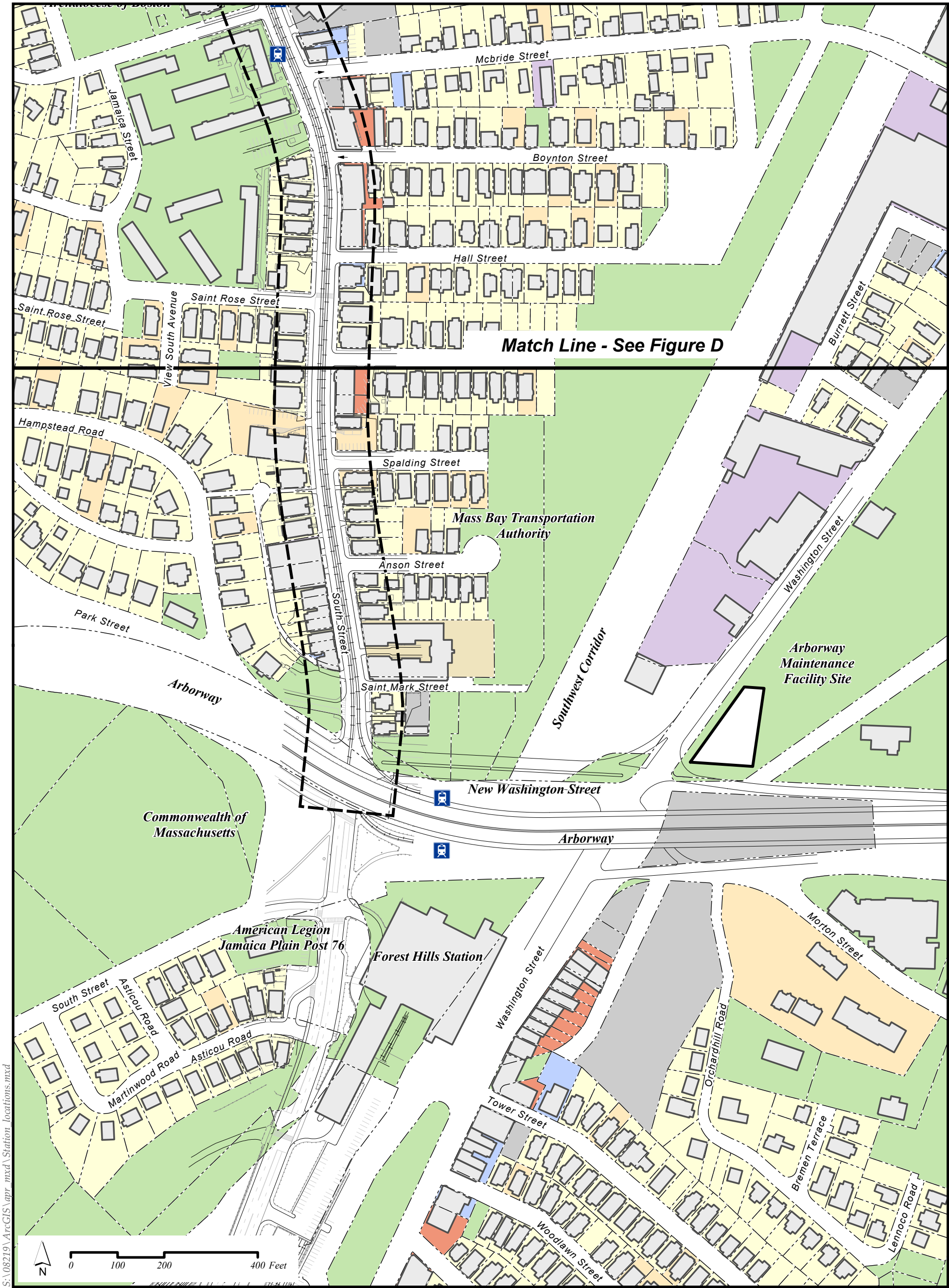
- Boston Fire
- Boston Police
- Hospital
- School

- Direction of One Way Traffic Flow
- Proposed Stations
- Study Corridor

- Commercial
- Industrial
- Multiple Use
- Residential
- Apartment

- Condominium
- Tax Exempt
- Undefined

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002



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Arborway Restoration Project

Figure: 1.3-1 E

Legend

- Boston Fire
- Boston Police
- Hospital
- School

- Direction of One Way Traffic Flow
- Proposed Stations
- Study Corridor

- Commercial
- Industrial
- Multiple Use
- Residential
- Apartment

- Condominium
- Tax Exempt
- Undefined

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002



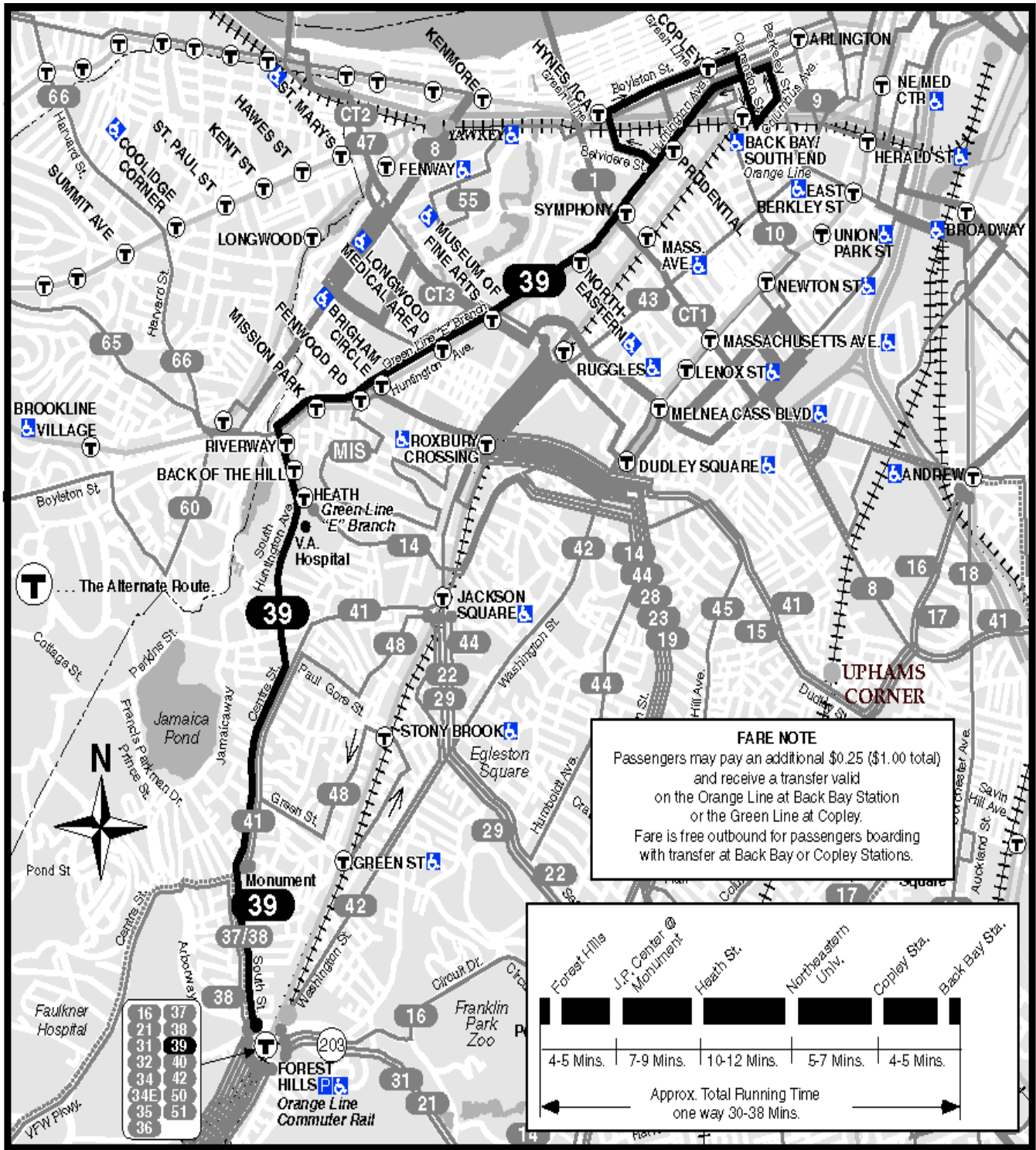
Arborway Streetcar Restoration



Massachusetts
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Typical View, South Street

Figure 1.3-2



Arborway Streetcar Restoration

Figure 1.3-3



Massachusetts
Bay
Transportation
Authority

Bus Routes within
Arborway Corridor

39 WEEKDAY						39 SATURDAY						39 SUNDAY					
INBOUND			OUTBOUND			INBOUND			OUTBOUND			INBOUND			OUTBOUND		
Leave Forest Hills	Arrive Heath Street	Arrive Back Bay Station	Leave Back Bay Station	Arrive Heath Street	Arrive Forest Hills	Leave Forest Hills	Arrive Heath Street	Arrive Back Bay Station	Leave Back Bay Station	Arrive Heath Street	Arrive Forest Hills	Leave Forest Hills	Arrive Heath Street	Arrive Back Bay Station	Leave Back Bay Station	Arrive Heath Street	Arrive Forest Hills
a 4:42A	4:50A	5:00A	5:26A	5:41A	5:49A	a 4:42A	4:50A	5:00A	5:30A	5:44A	5:52A	5:45A	5:51A	6:06A	6:13A	6:28A	6:36A
5:01	5:08	5:25	5:33	5:48	5:56	5:01	5:08	5:24	5:42	5:56	6:04	6:00	6:06	6:21	6:28	6:43	6:51
5:08	5:15	5:32	5:41	5:56	6:04	5:12	5:19	5:35	5:54	6:08	6:16	6:15	6:21	6:36	6:43	6:58	7:06
5:16	5:23	5:40	5:48	6:03	6:11	5:24	5:31	5:47	6:06	6:20	6:28	6:30	6:36	6:51	6:58	7:13	7:21
5:23	5:30	5:47	5:56	6:11	6:19	5:36	5:43	5:59	6:18	6:32	6:40	6:42	6:48	7:03	7:11	7:26	7:34
5:31	5:38	5:55	6:03	6:18	6:26	5:48	5:55	6:11	6:30	6:44	6:52	6:54	7:00	7:15	7:23	7:38	7:46
★	★	★	6:11	6:26	6:36	6:00	6:07	6:23	6:42	6:56	7:04	7:06	7:12	7:27	7:35	7:50	7:58
6:15	6:22	6:39	6:18	6:33	6:44	6:12	6:19	6:35	6:54	7:08	7:16	7:18	7:24	7:39	7:47	8:02	8:11
Every	5 Mins	Until	6:26	6:42	6:53	6:24	6:31	6:47	7:06	7:20	7:28	7:30	7:36	7:51	7:59	8:16	8:25
6:55	7:04	7:26	★	★	★	6:36	6:43	6:59	7:18	7:32	7:40	7:42	7:48	8:04	8:11	8:28	8:37
hs 6:57	7:08	.....	7:00	7:17	7:28	6:48	6:55	7:11	7:30	7:44	7:52	7:54	8:00	8:18	8:23	8:40	8:49
hs 6:58	7:10	.....	7:07	7:24	7:35	7:00	7:07	7:23	7:42	7:56	8:04	8:06	8:13	8:31	8:35	8:52	9:01
hs 7:00	7:12	.....	hs 7:20	7:26	7:37	7:12	7:19	7:35	7:54	8:08	8:16	8:18	8:25	8:43	8:47	9:04	9:13
7:01	7:13	7:35	7:13	7:30	7:41	7:24	7:31	7:47	8:06	8:20	8:28	8:30	8:37	8:55	8:59	9:16	9:25
hs 7:03	7:15	.....	hs 7:25	7:31	7:42	7:24	7:31	7:47	8:06	8:20	8:28	★	★	★	★	★	★
hs 7:04	7:16	.....	7:21	7:38	7:49	7:36	7:43	7:59	8:18	8:32	8:40	11:52	11:59	12:17P	11:57	12:14P	12:23P
hs 7:06	7:18	.....	7:29	7:46	7:57	7:48	7:55	8:11	8:30	8:44	8:52	★	★	★	★	★	★
7:06	7:18	7:40	7:36	7:53	8:04	8:00	8:07	8:23	8:39	8:53	9:01	12:00N	12:07P	12:25P	12:05P	12:22P	12:31P
7:12	7:24	7:46	7:41	7:58	8:09	8:09	8:16	8:32	★	★	★	★	★	★	★	★	★
7:15	7:27	7:49	7:47	8:04	8:15	★	★	★	11:57	12:17P	12:27P	7:45P	7:51	8:06	7:55	8:10	8:18
7:18	7:30	7:52	7:50	8:07	8:18	★	★	★	★	★	★	7:54	8:00	8:15	8:04	8:19	8:27
Every	4 Mins or less	Until	Every	4 Mins or less	Until	11:55	12:05P	12:24P	★	★	★	8:06	8:12	8:27	8:13	8:28	8:36
9:15	9:26	9:47	9:44	10:01	10:12	12:02P	12:12P	12:31P	★	★	★	8:18	8:24	8:39	8:22	8:37	8:45
9:20	9:31	9:52	9:48	10:05	10:16	★	★	★	7:53	8:11	8:20	8:30	8:36	8:51	8:34	8:49	8:57
9:25	9:36	9:57	9:53	10:10	10:21	7:13	7:22	7:39	8:02	8:20	8:29	8:42	8:48	9:03	8:46	9:01	9:09
9:30	9:41	10:02	★	★	★	7:22	7:30	7:46	8:11	8:29	8:38	8:54	9:00	9:15	8:58	9:13	9:21
9:35	9:46	10:07	11:58	12:06P	12:17P	7:31	7:38	7:54	8:20	8:38	8:47	9:06	9:12	9:27	9:10	9:25	9:33
9:40	9:51	10:12	★	★	★	7:40	7:47	8:03	8:29	8:47	8:56	9:18	9:24	9:39	9:22	9:37	9:45
9:47	9:58	10:19	★	★	★	7:49	7:56	8:12	8:38	8:56	9:05	9:30	9:36	9:51	9:34	9:49	9:57
9:55	10:06	10:27	★	★	★	7:58	8:05	8:21	8:47	9:05	9:14	9:42	9:48	10:03	9:46	10:01	10:09
10:04	10:15	10:36	★	★	★	8:07	8:14	8:30	8:56	9:14	9:23	9:54	10:00	10:15	9:58	10:13	10:21
★	★	★	1:52	2:16	2:27	8:16	8:23	8:39	9:05	9:23	9:32	10:06	10:12	10:27	10:10	10:25	10:33
11:52	12:03P	12:24P	2:01	2:25	2:36	8:25	8:32	8:48	9:14	9:32	9:41	Every	12 Mins	Until	Every	12 Mins	Until
12:01P	12:12P	12:33P	hs 2:25	2:31	2:42	8:34	8:41	8:57	9:23	9:41	9:50	12:06A	12:12A	12:27A	12:34A	12:49A	12:57A
12:10	12:21	12:42	hs 2:10	2:34	2:45	8:43	8:50	9:06	9:32	9:50	9:59	12:18	12:24	12:39	12:46	1:01	1:09
12:19	12:30	12:51	hs 2:28	2:34	2:45	8:52	8:59	9:15	9:41	9:59	10:08	12:30	12:36	12:51	1:00	1:15	1:23
12:28	12:39	1:00	hs 2:36	2:42	2:53	9:01	9:08	9:24	9:50	10:08	10:17	★	★	★	★	★	★
★	★	★	s 2:19	2:43	2:54	9:10	9:17	9:33	★	★	★	★	★	★	★	★	★
2:29	2:41	3:05	s 2:25	2:49	3:00	★	★	★	12:30A	12:48A	12:57A	FARE 75¢	Seniors 65+ w/MBTA Senior ID Card	15 ¢	Persons w/Disabilities	w/Transportation Access Pass (TAP)	15 ¢
2:36	2:48	3:12	2:28	2:52	3:03	12:10A	12:17A	12:33A	12:40	12:58	1:07	12:06A	12:12A	12:27A	12:34A	12:49A	12:57A
2:42	2:54	3:18	2:34	2:58	3:09	12:20	12:27	12:47	12:50	1:08	1:17	12:18	12:24	12:39	12:46	1:01	1:09
★	★	★	★	★	★	12:30	12:37	12:53	w 1:00	1:18	1:27	★	★	★	★	★	★
4:56	5:05	5:25	6:42	6:59	7:10	a - Through service to Downtown Boston s - Does NOT run during school vacation. h - To or From Huntington @ Longwood Ave. w - Waits for last train to arrive at Station ★ EVERY 10 MINUTES OR LESS LIMITED WHEELCHAIR LIFT SERVICE IS AVAILABLE ON THIS ROUTE											
5:00	5:09	5:29	6:49	7:06	7:17	Route 39 Forest Hills Sta. - Back Bay Sta. Via Huntington Ave.											
5:04	5:13	5:33	6:56	7:13	7:24												
★	★	★	7:03	7:20	7:31												
7:11	7:20	7:40	7:10	7:27	7:38	HOLIDAYS: Sept. 2 - See Sun. Oct. 14 - See Sat. Nov. 11 - See Wkdy. Nov. 28 - See Sun. Dec. 25 - See Sun. Jan. 1 - See Sun.											
7:18	7:27	7:47	11:54	12:09A	12:17A												
7:27	7:36	7:56	12:04A	12:19	12:27												
★	★	★	12:14	12:29	12:37												
11:50	11:57	12:14A	12:24	12:39	12:47												
12:00M	12:07A	12:24	12:34	12:49	12:57												
12:10A	12:17	12:34	12:44	12:59	1:07												
12:20	12:27	12:44	12:54	1:09	1:17												
12:32	12:39	12:56	w 1:05	1:20	1:28												

Free local bus transfer available with cash fare. Certain restrictions apply.

FARE 75¢
 Seniors 65+ w/MBTA Senior ID Card 15 ¢
 Persons w/Disabilities
 w/Transportation Access Pass (TAP) 15 ¢
 (Medicare Card holders are automatically eligible for TAP)
 Blind Persons w/Mass. Comm.
 for Blind ID Card FREE
 Children Ages 11 and under 35 ¢
 Children under 5 yrs. (limit of two, when with adult) FREE
 Students w/MBTA Pupil ID Badge 35 ¢

EXACT CHANGE REQUIRED
VALID PASSES
 Local Bus (\$0.75) \$25.00/mo.
 Combo (\$1.75) \$57.00/mo.
 Combo *Plus* (\$2.00) \$63.00/mo.
 Zone - 1 (\$2.50) \$85.00/mo.
 Zone - 2 (\$2.75) \$94.00/mo.

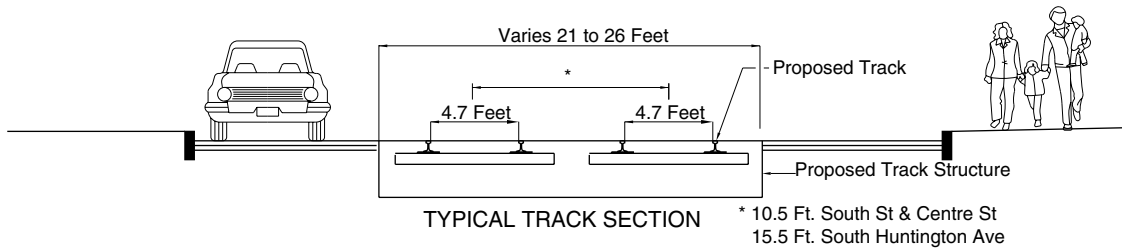
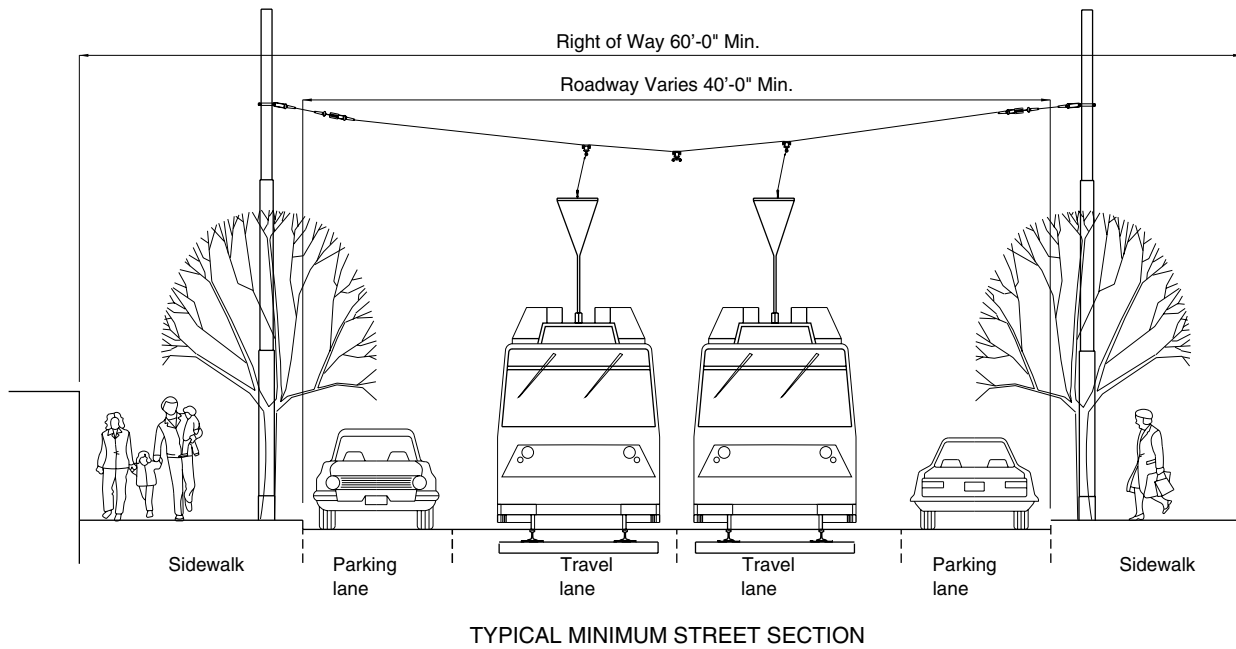
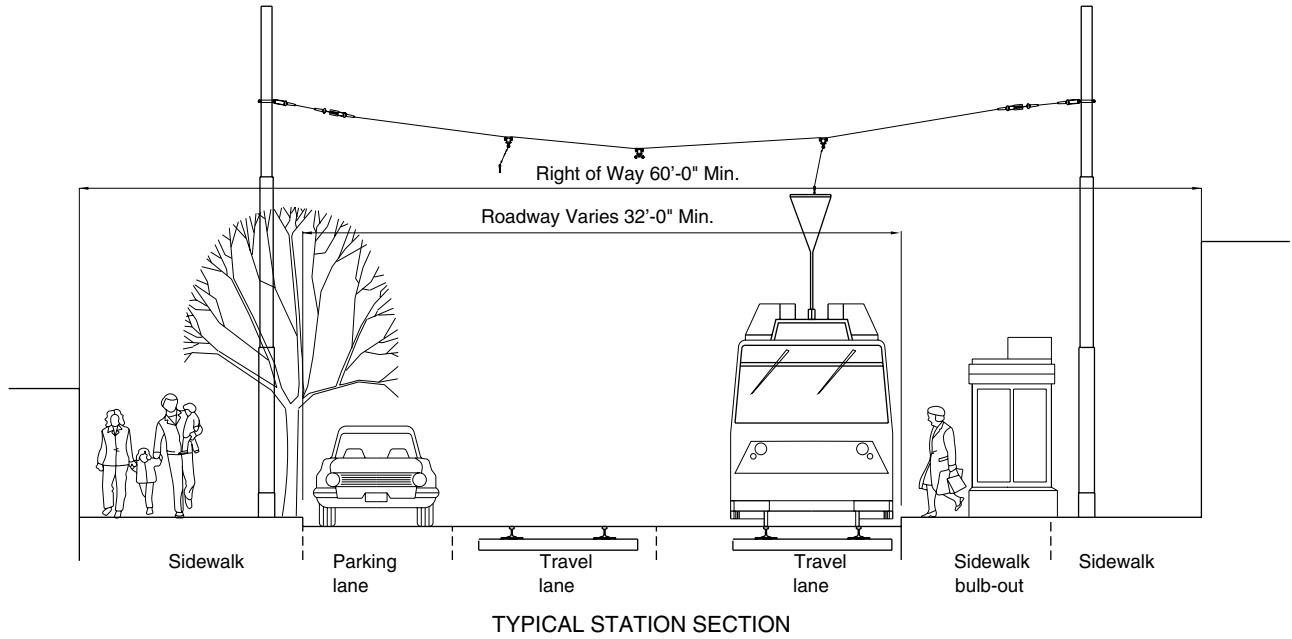
HOLIDAYS:
 Sept. 2 - See Sun.
 Oct. 14 - See Sat.
 Nov. 11 - See Wkdy.
 Nov. 28 - See Sun.
 Dec. 25 - See Sun.
 Jan. 1 - See Sun.



Massachusetts
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Arborway Streetcar Restoration

Figure 1.3-4
Route 39 Bus Schedule



Not to Scale

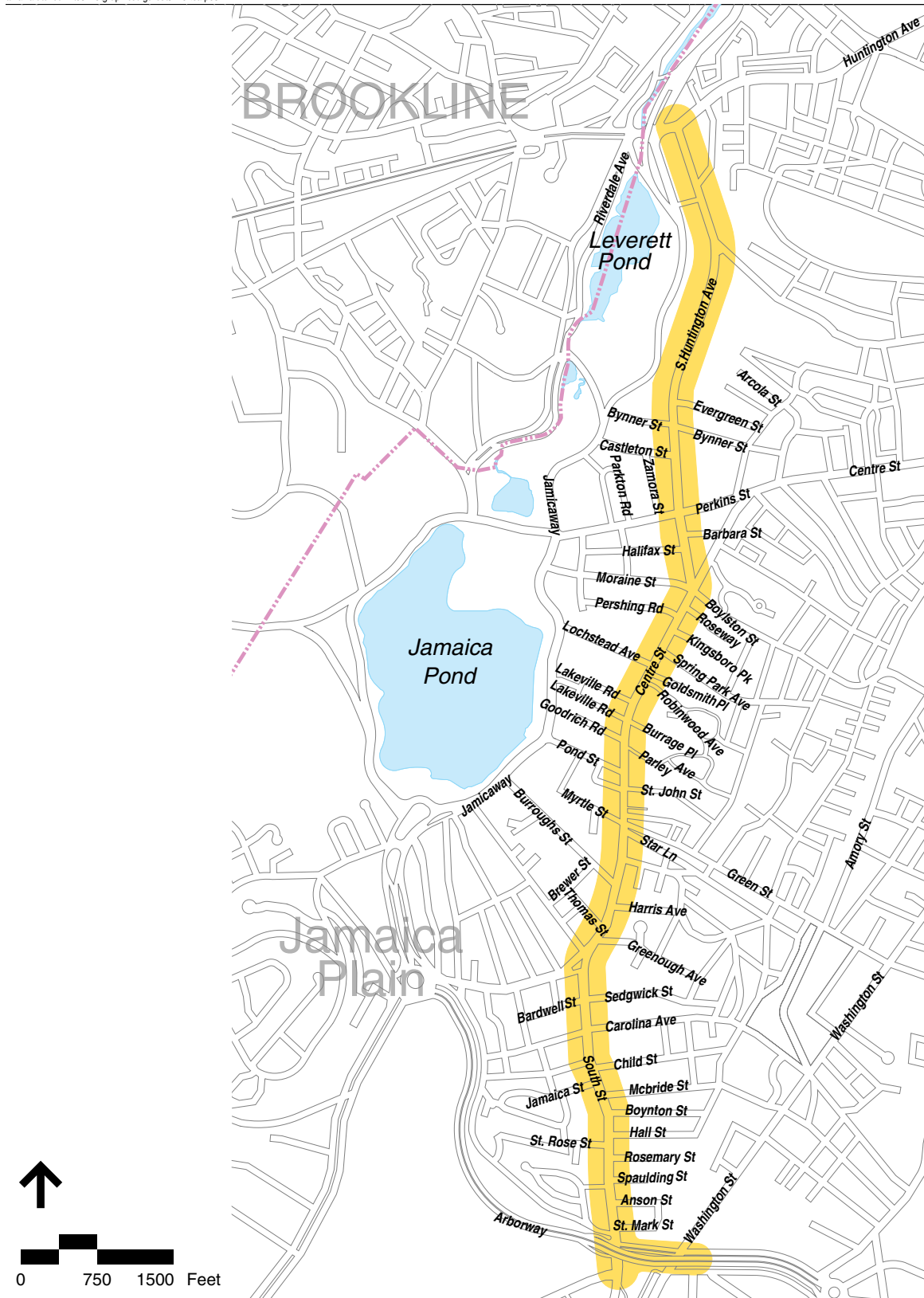
Arborway Streetcar Restoration



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Typical Cross-Sections

Figure 1.3-5



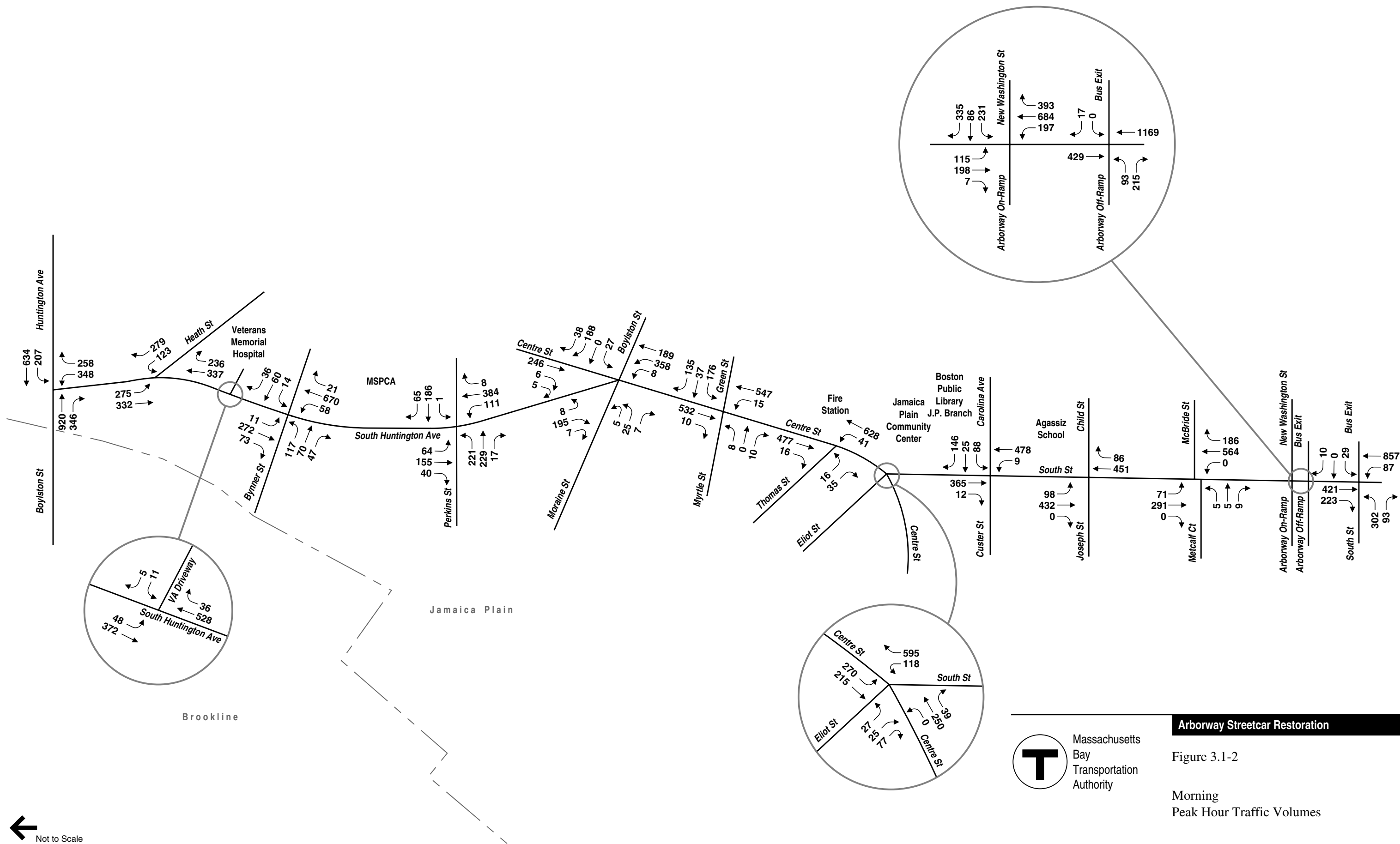
Arborway Streetcar Restoration

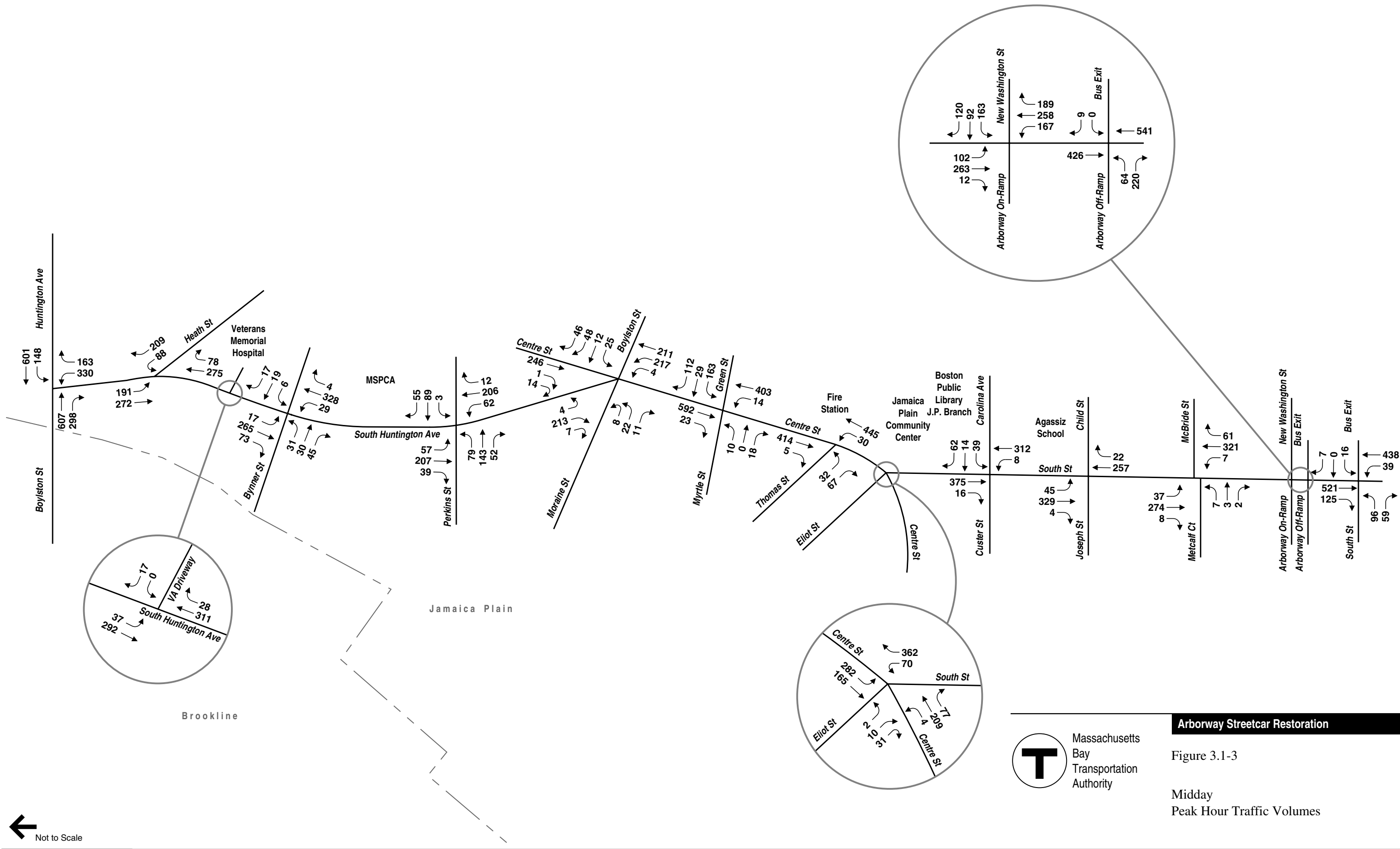


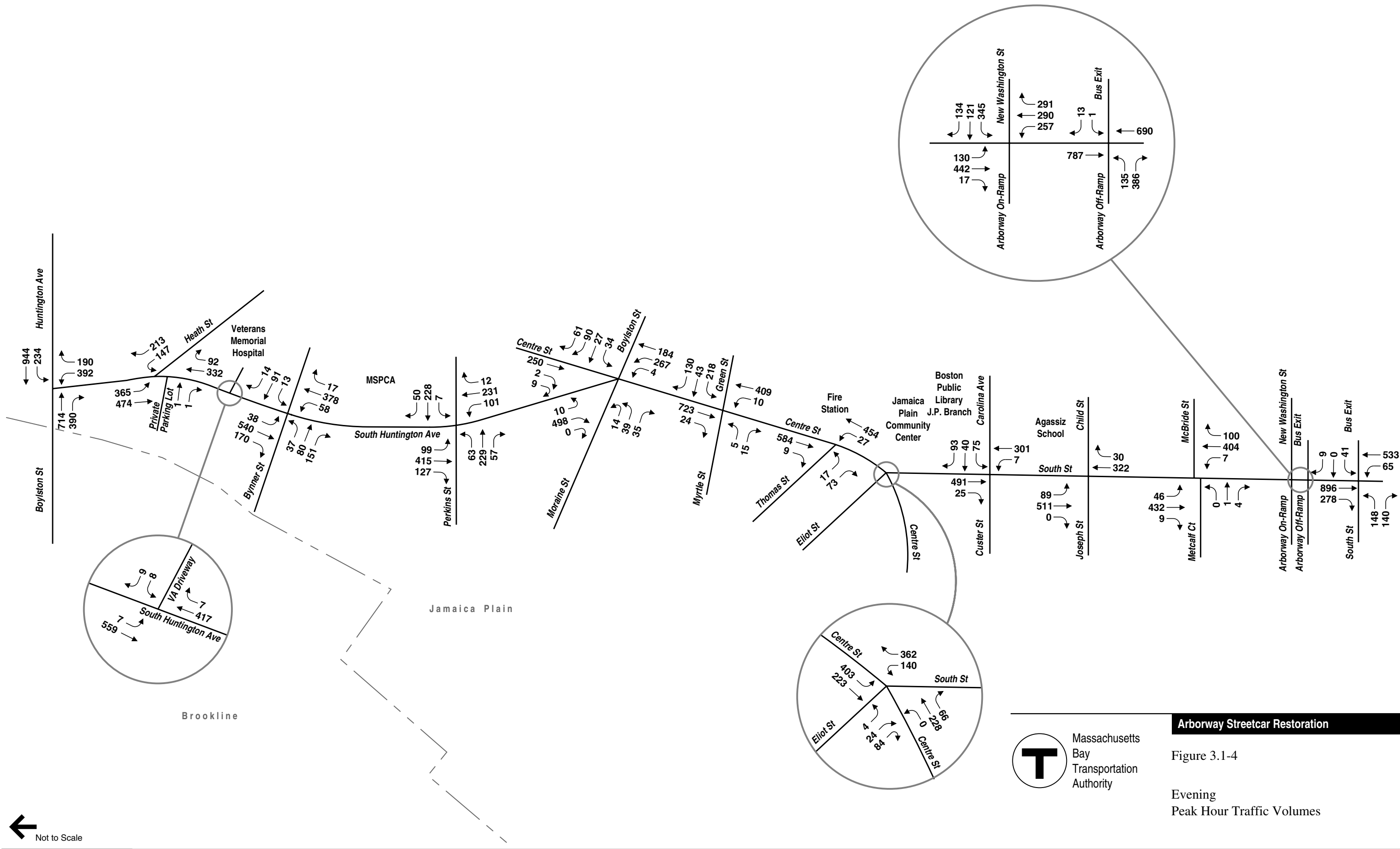
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Traffic Study Area

Figure 3.1-1







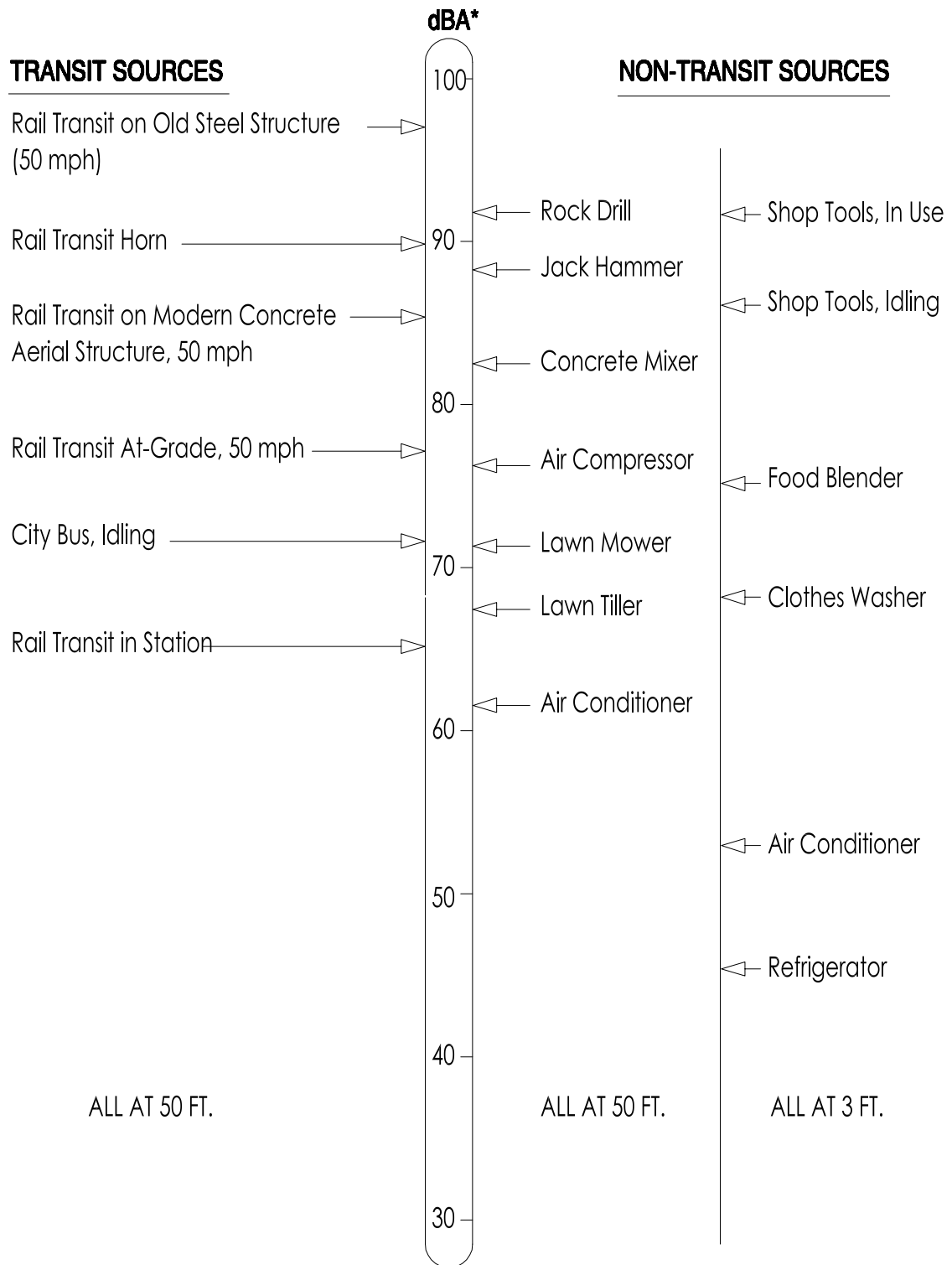
Arborway Streetcar Restoration

Figure 3.1-4

Evening
Peak Hour Traffic Volumes



Not to Scale



Source: Transit Noise and Vibration Assessment, US Department of Transportation, April 1995

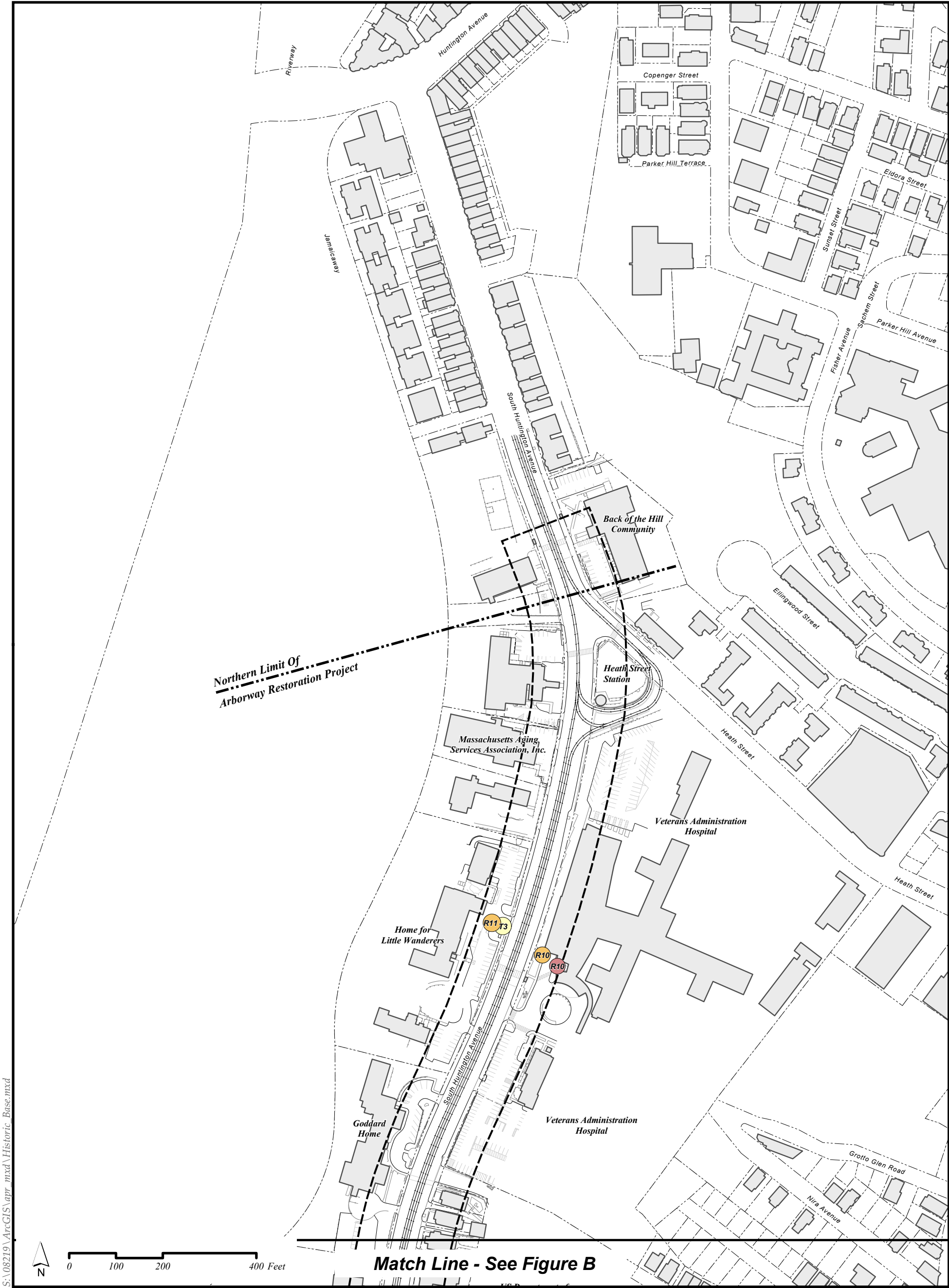
Arborway Streetcar Restoration



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Typical Sound Levels

Figure 3.2-1



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Arborway Streetcar Restoration

Noise and Vibration
Monitoring Locations

Figure: 3.2-2 A

Legend

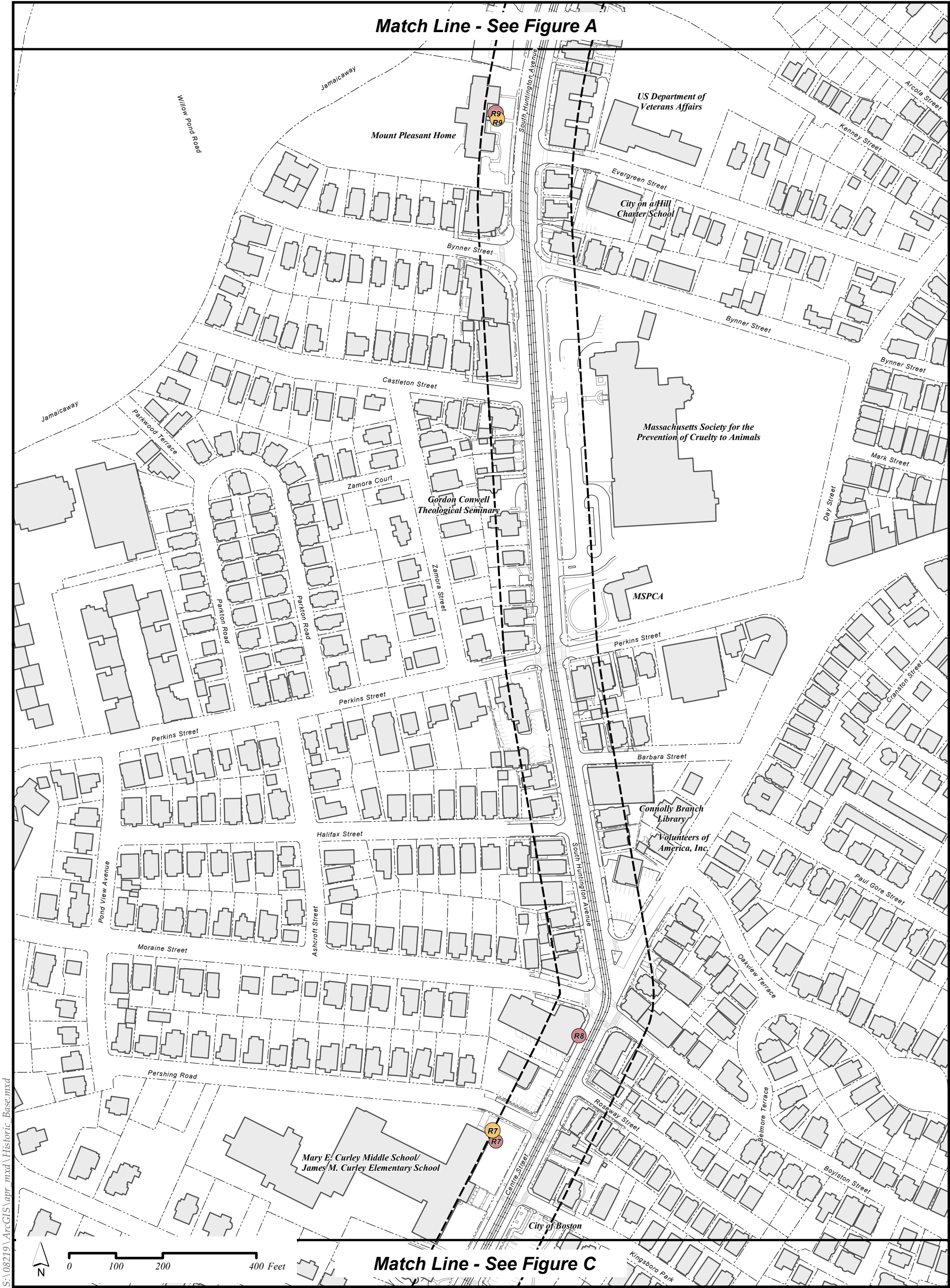
- Vibration
- Vibration Transect
- Noise

Study Corridor

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
Massachusetts Historical Commission; Boston Landmarks Commission
NRIND; National Register of Individual Property

Match Line - See Figure A

Match Line - See Figure C



Arborway Streetcar Restoration



Massachusetts
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Noise and Vibration
Monitoring Locations

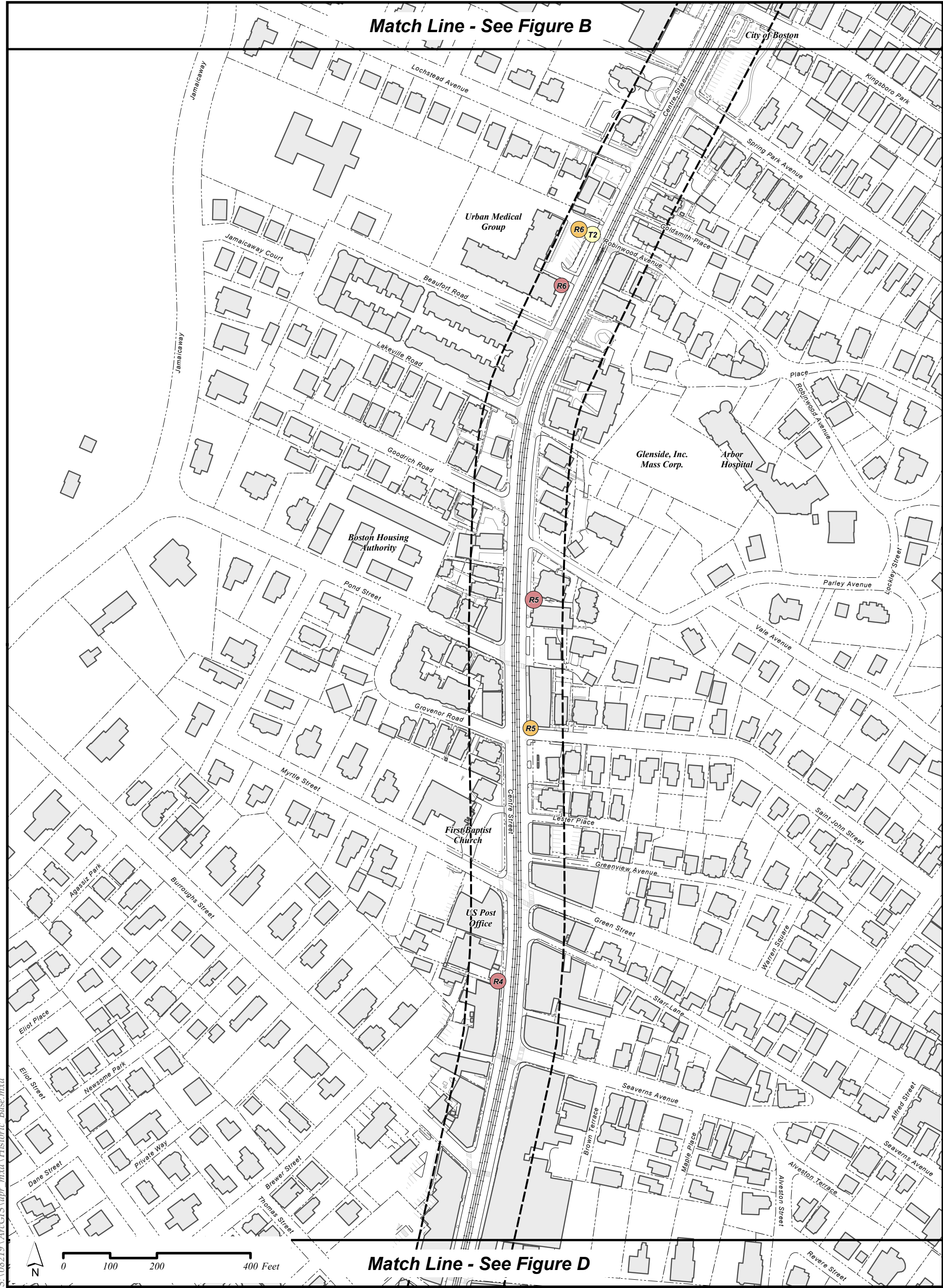
Figure: 3.2-2 B

Legend

- Vibration
- Vibration Transect
- Noise

Study Corridor

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
Massachusetts Historical Commission; Boston Landmarks Commission
NRIND; National Register of Individual Property



Arborway Streetcar Restoration



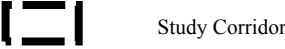
Massachusetts
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Authority

Noise and Vibration
Monitoring Locations

Figure: 3.2-2 C

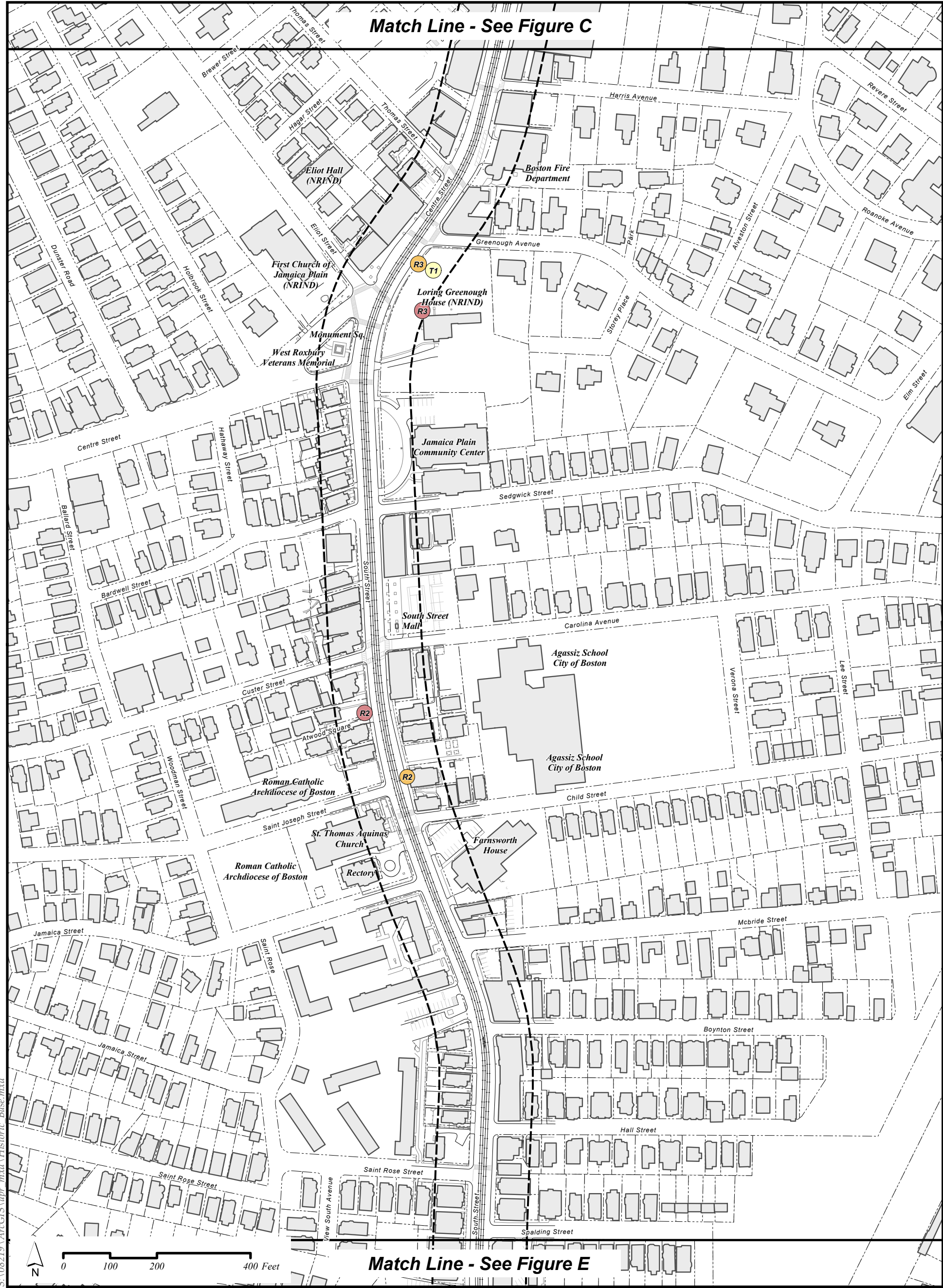
Legend

- Vibration
- Vibration Transect
- Noise



Study Corridor

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
Massachusetts Historical Commission; Boston Landmarks Commission
NRIND; National Register of Individual Property



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Massachusetts
Bay
Transportation
Authority

Noise and Vibration
Monitoring Locations

Figure: 3.2-2 D

Legend

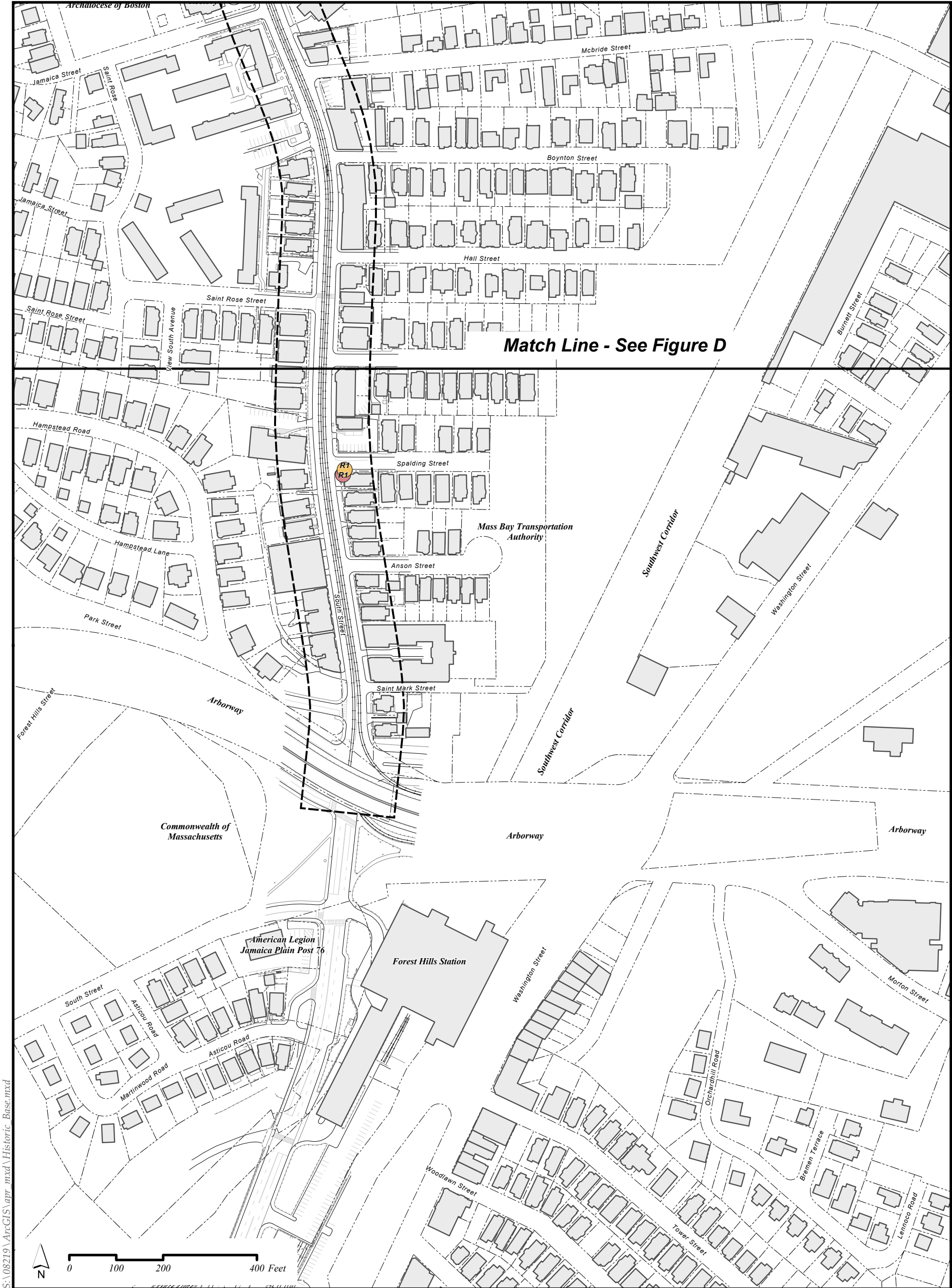


Vibration
Vibration Transect
Noise



Study Corridor

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
Massachusetts Historical Commission; Boston Landmarks Commission
NRIND; National Register of Individual Property



Arborway Streetcar Restoration

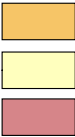


Massachusetts
Bay
Transportation
Authority

Noise and Vibration
Monitoring Locations

Figure: 3.2-2 E

Legend



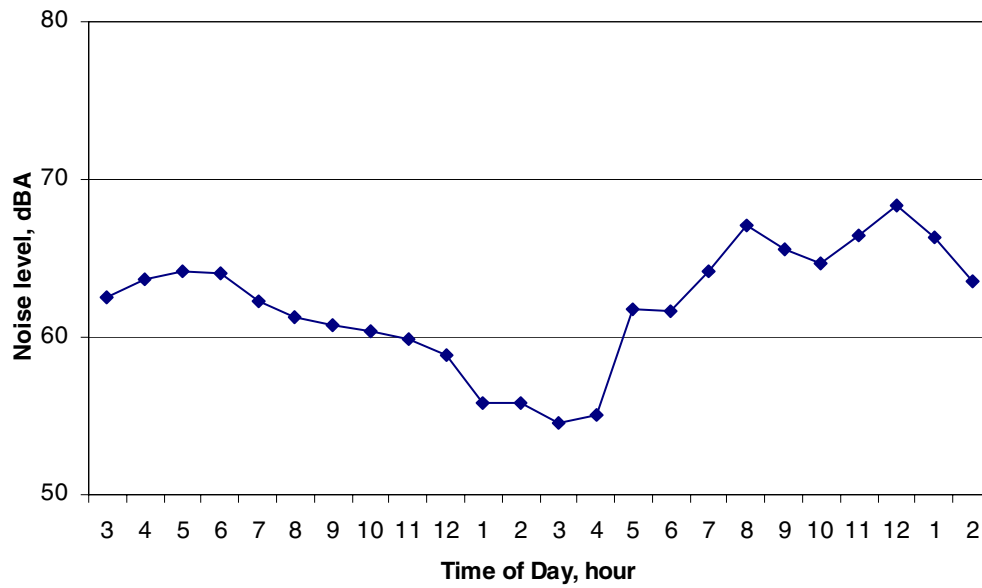
Vibration
Vibration Transect
Noise



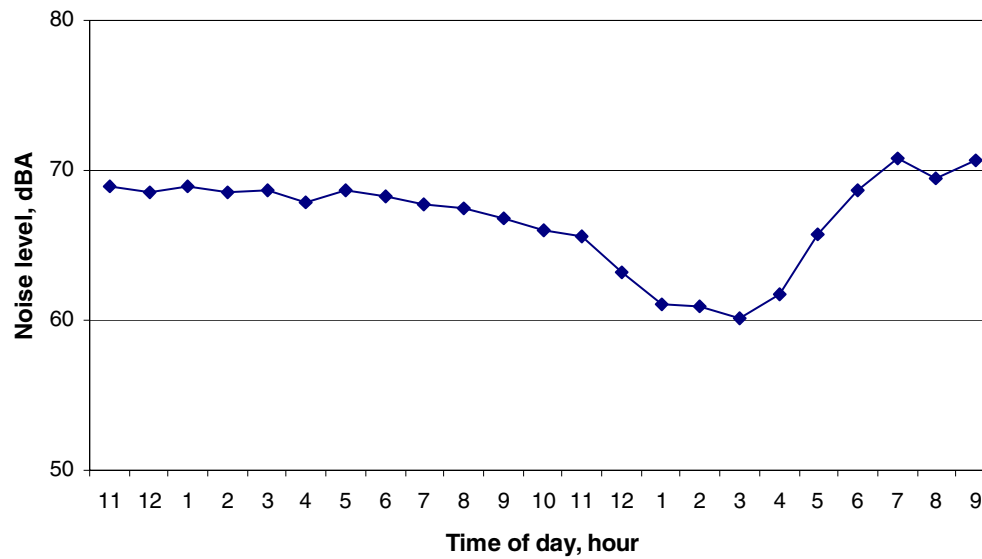
Study Corridor

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
Massachusetts Historical Commission; Boston Landmarks Commission
NRIND; National Register of Individual Property

24-Hour Measured Leq Noise Levels at Veterans Hospital



24 Hour Measured Leq Noise Levels on Spalding Street



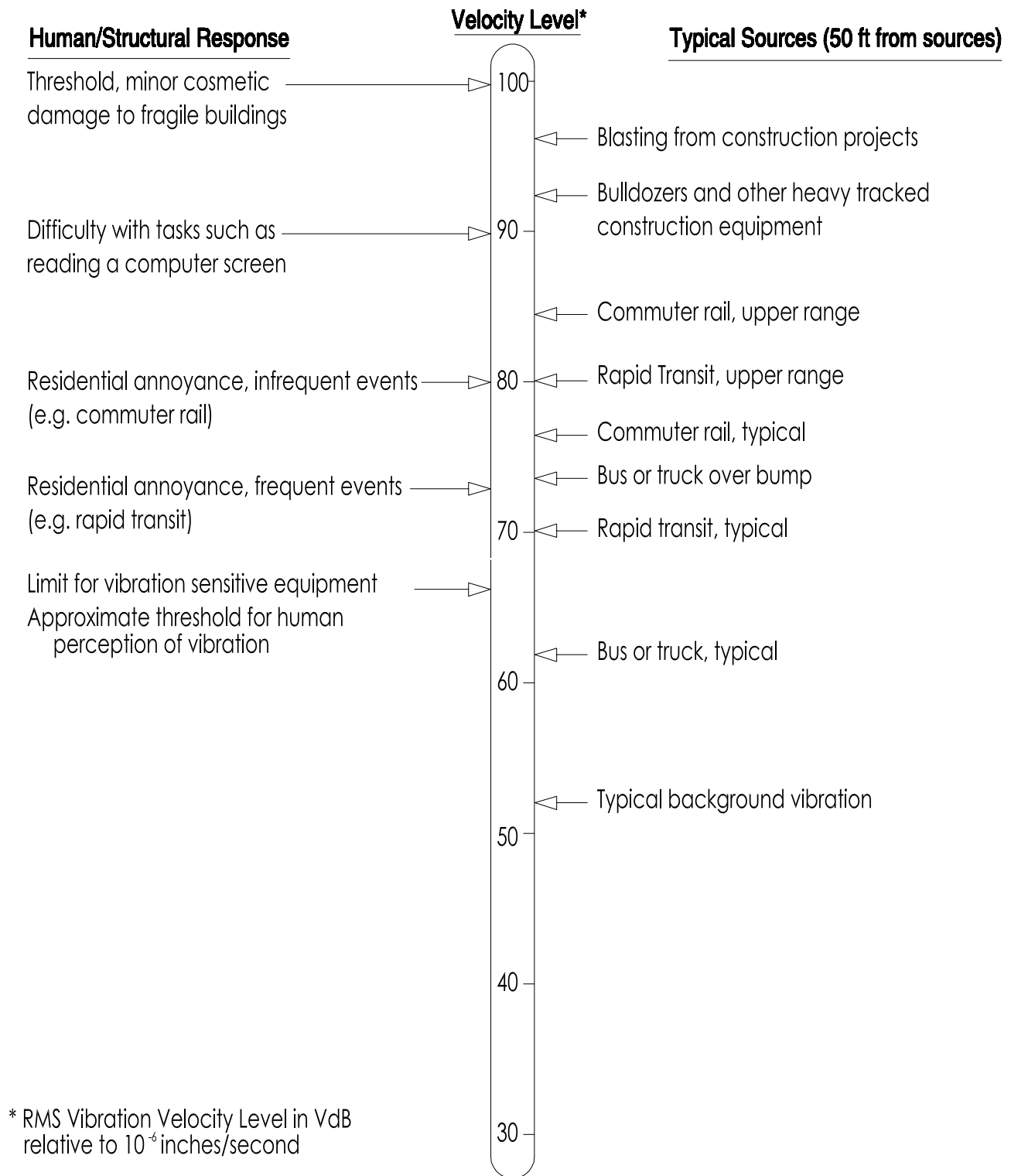
Arborway Streetcar Restoration



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Typical Measured 24-Hour Noise Levels

Figure 3.2-3



Source: *Transit Noise and Vibration Assessment*, US Department of Transportation, April 1995

Arborway Streetcar Restoration

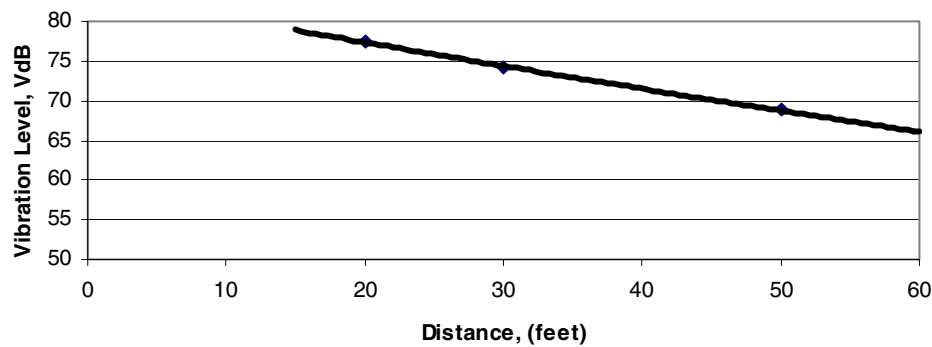


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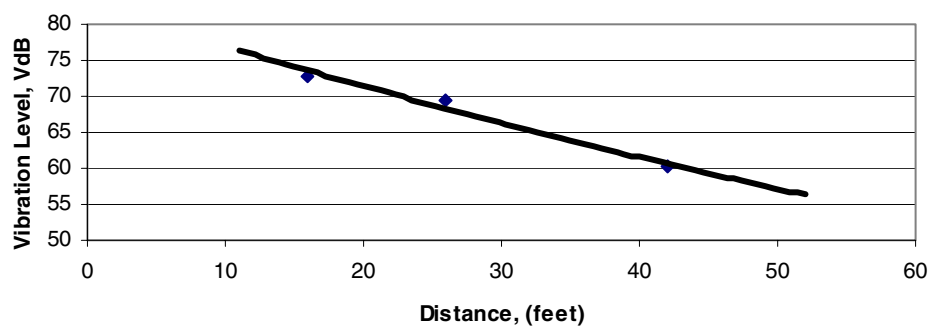
Typical Vibration Levels

Figure 3.3-1

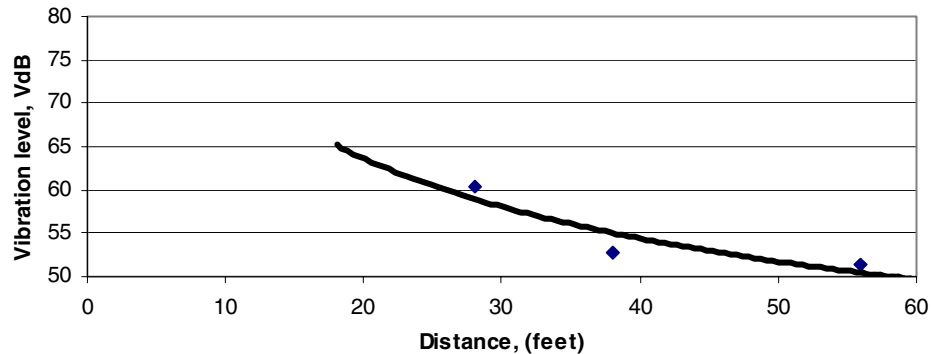
Bus Vibration Traverse at Loring-Greenough House

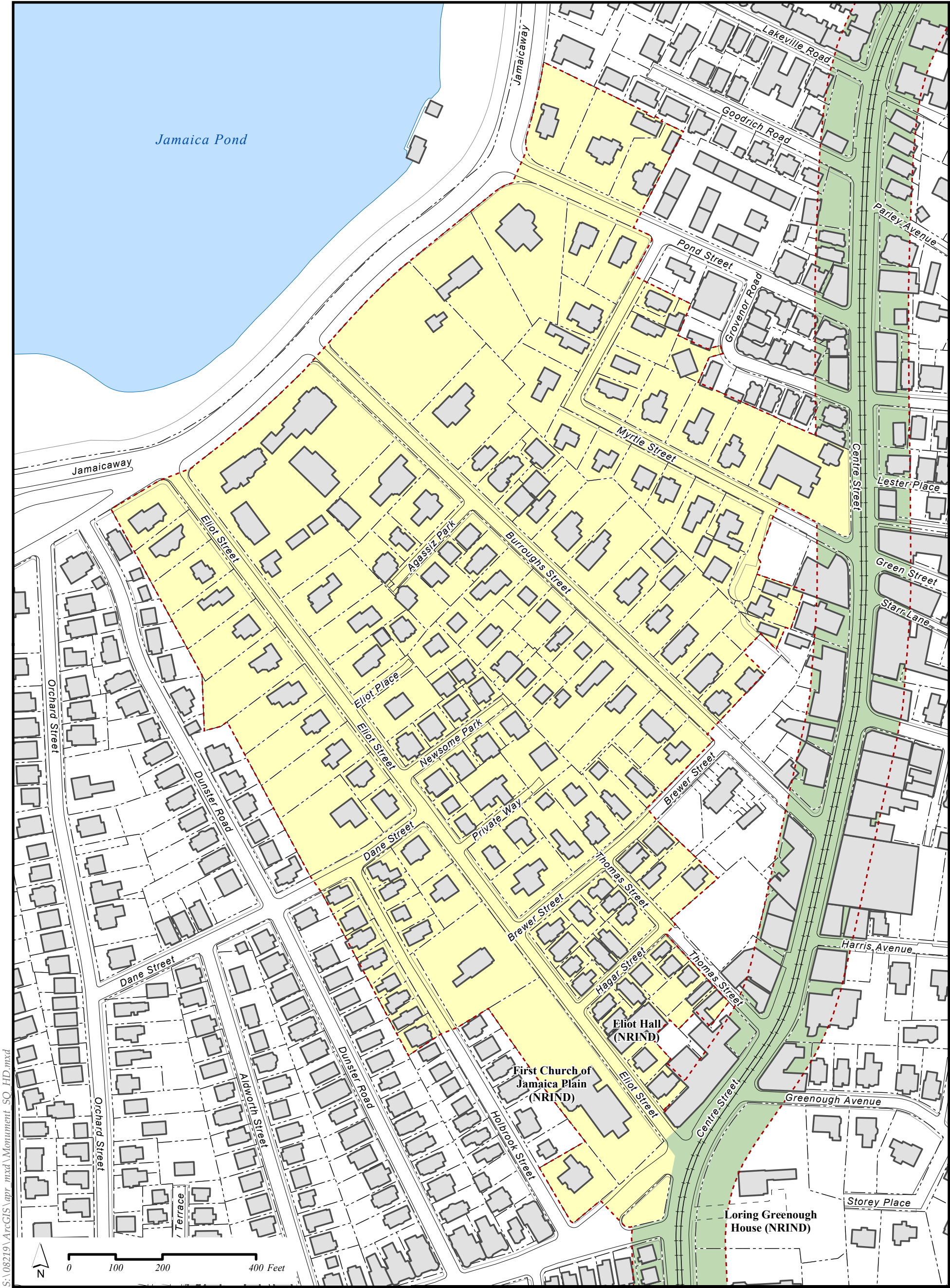


Bus Vibration Traverse at Urban Medical Center



Bus Vibration Traverse at Home For Little Wanderers





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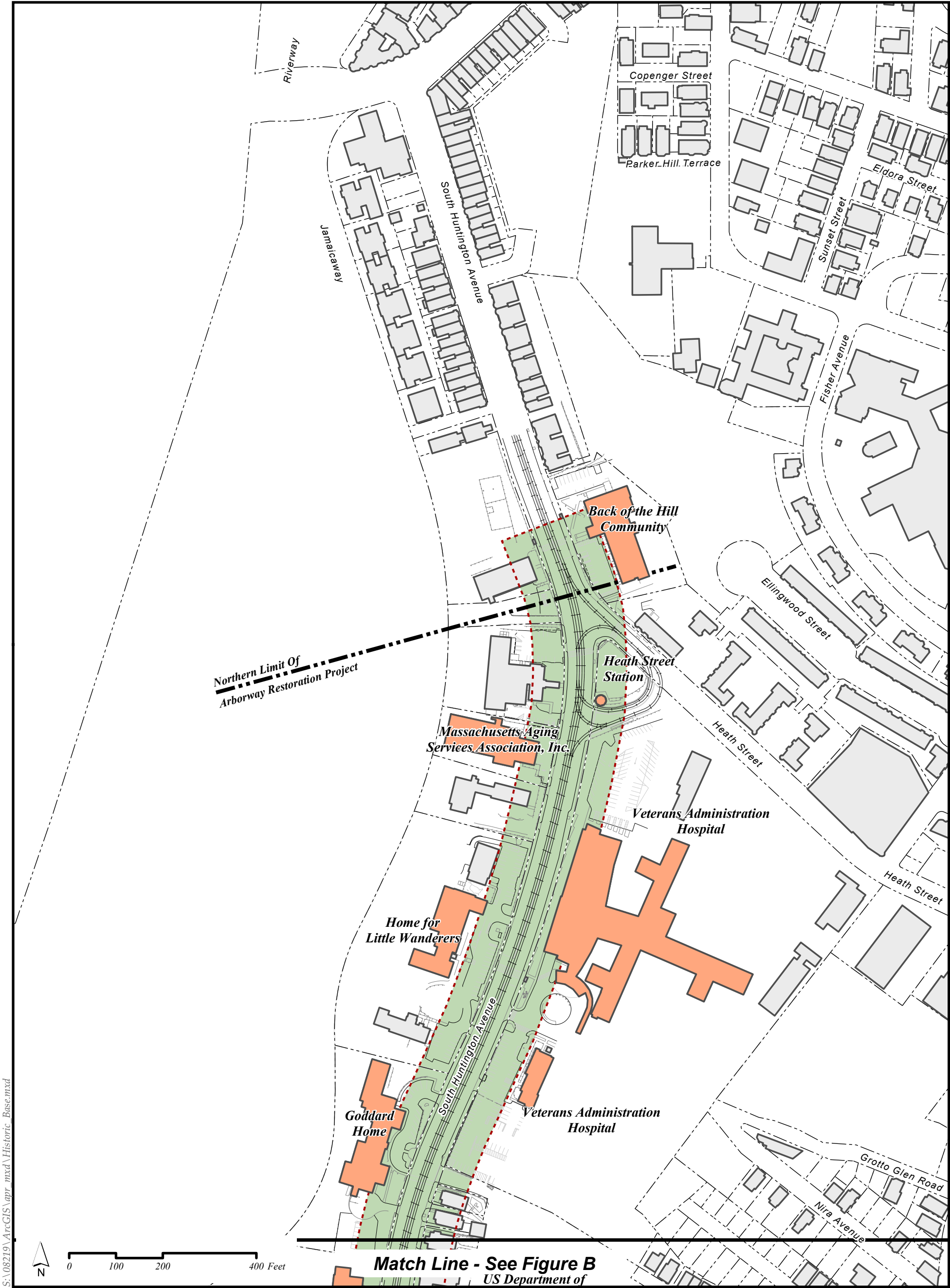
Monument Square Historic District

Figure: 3.5-1

Legend

-  Monument Square Historic District
-  Area of Potential Effect

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
Massachusetts Historical Commission; Boston Landmarks Commission
NRIND; National Register Individual Property



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Bay
Transportation
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Historic Properties and
Community Facilities

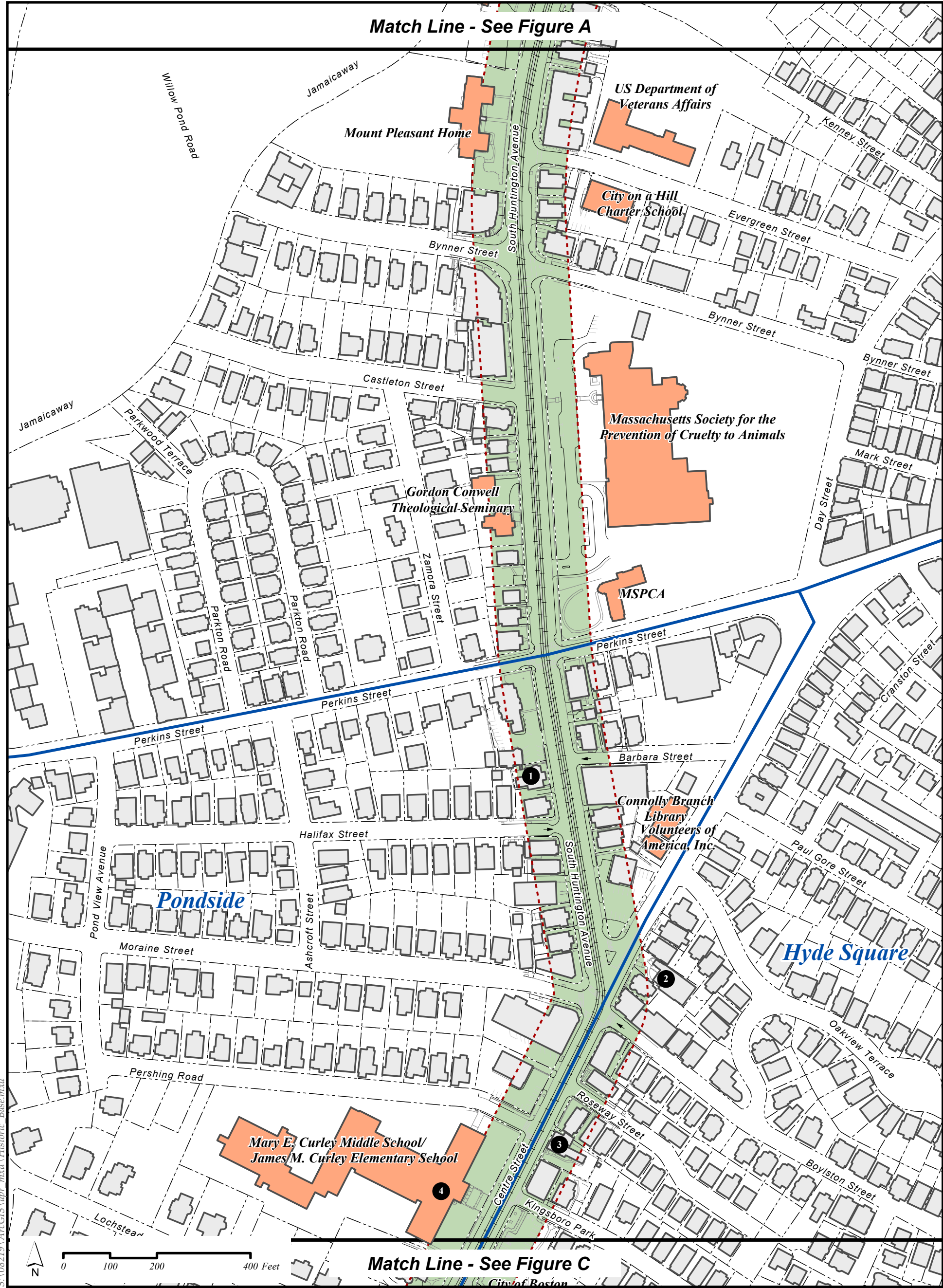
Legend

- Monument Square Historic District
- Area of Potential Effect
- Historic Neighborhoods

Figure: 3.5-2 A

- Community Facilities
- Direction of One Way Traffic Flow
- Inventory Property - See Table 3.5-1

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
Massachusetts Historical Commission; Boston Landmarks Commission
NRIND; National Register Individual Property



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Historic Properties and
Community Facilities

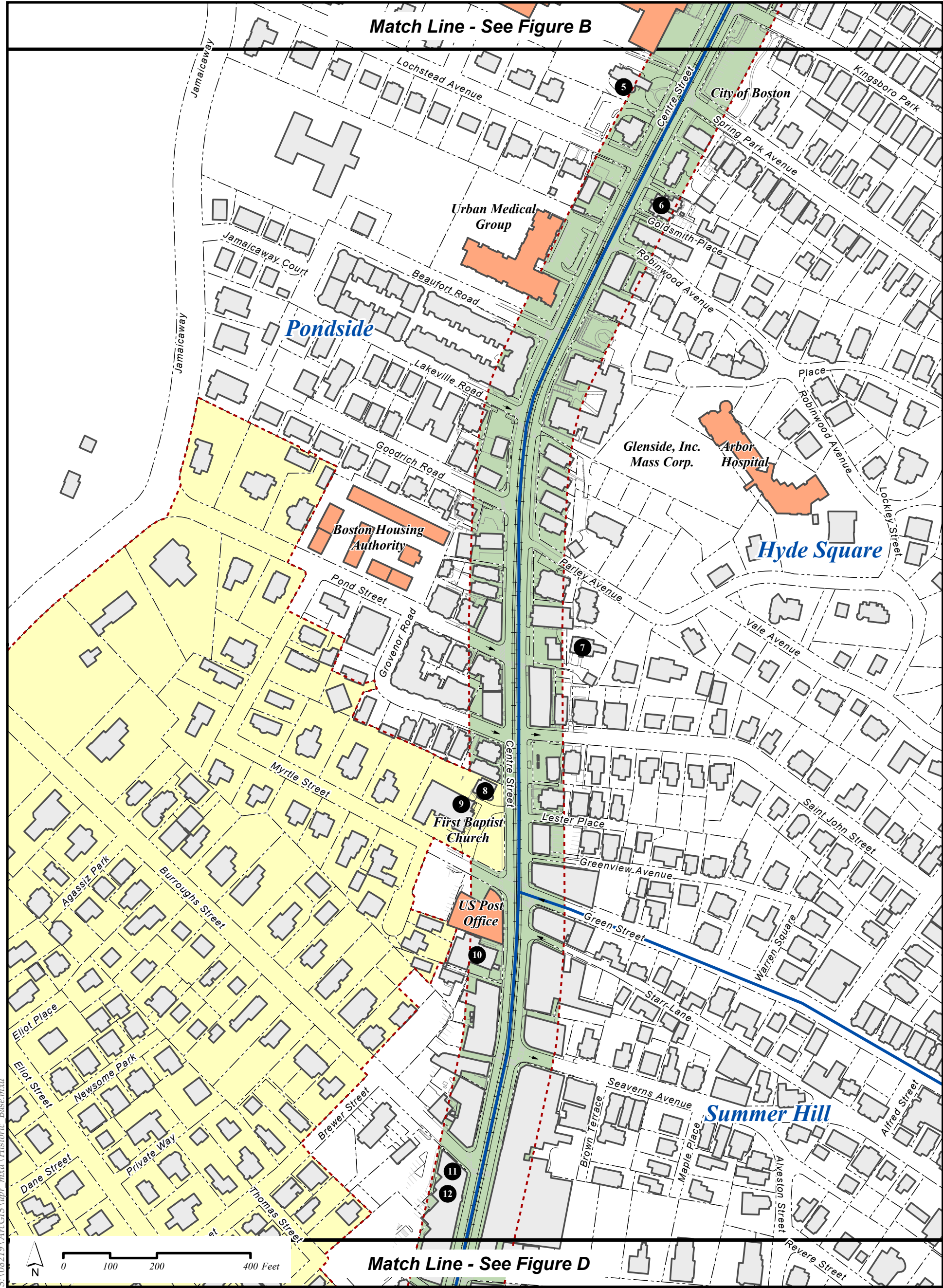
Legend

- Monument Square Historic District
- Area of Potential Effect
- Historic Neighborhoods

- Community Facilities
- Direction of One Way Traffic Flow
- Inventory Property - See Table 3.5-1

Figure: 3.5-2 B

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
Massachusetts Historical Commission; Boston Landmarks Commission
NRIND; National Register Individual Property

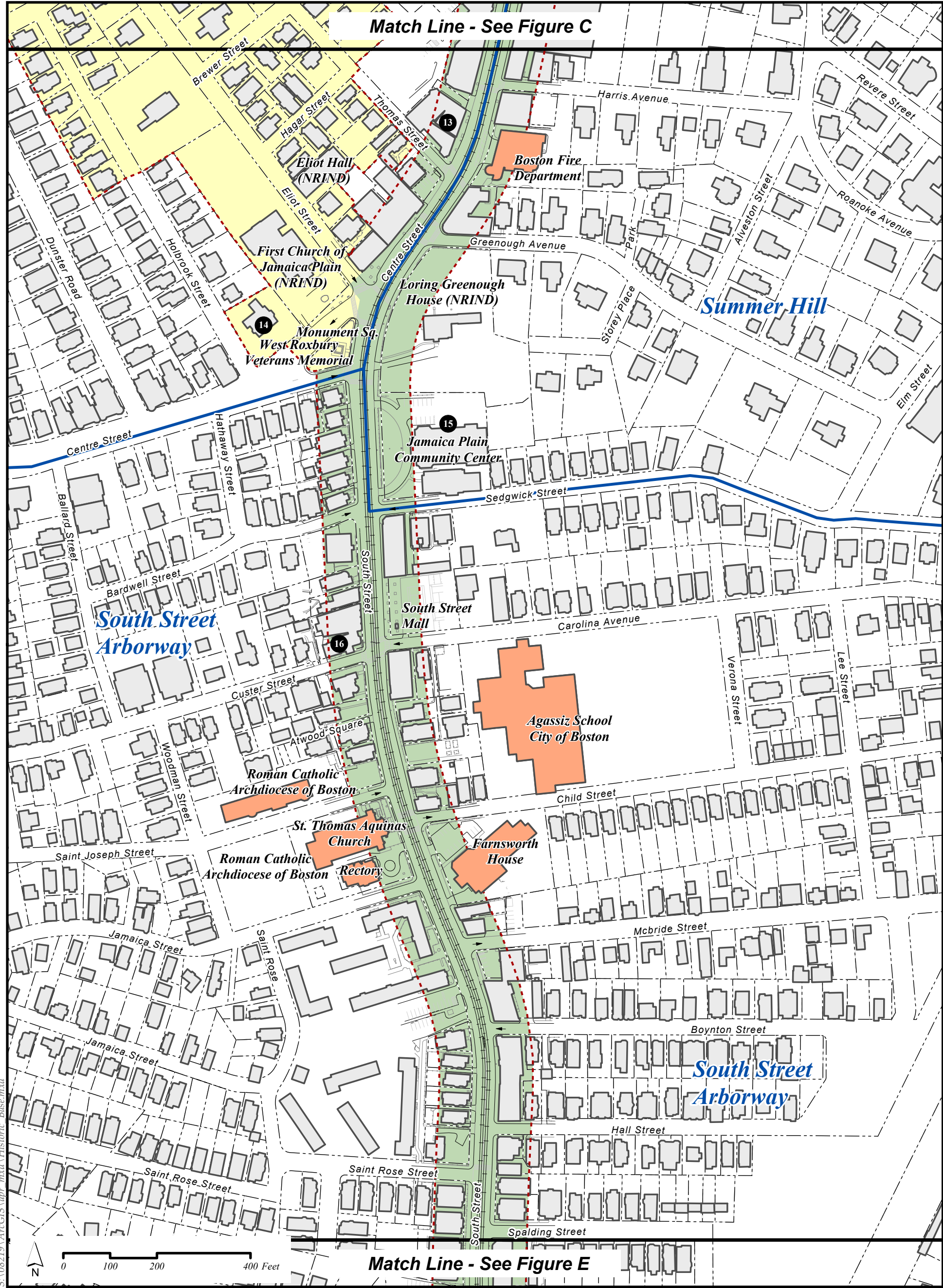



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Massachusetts
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Authority

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
Massachusetts Historical Commission; Boston Landmarks Commission
NRIND; National Register Individual Property





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Bay
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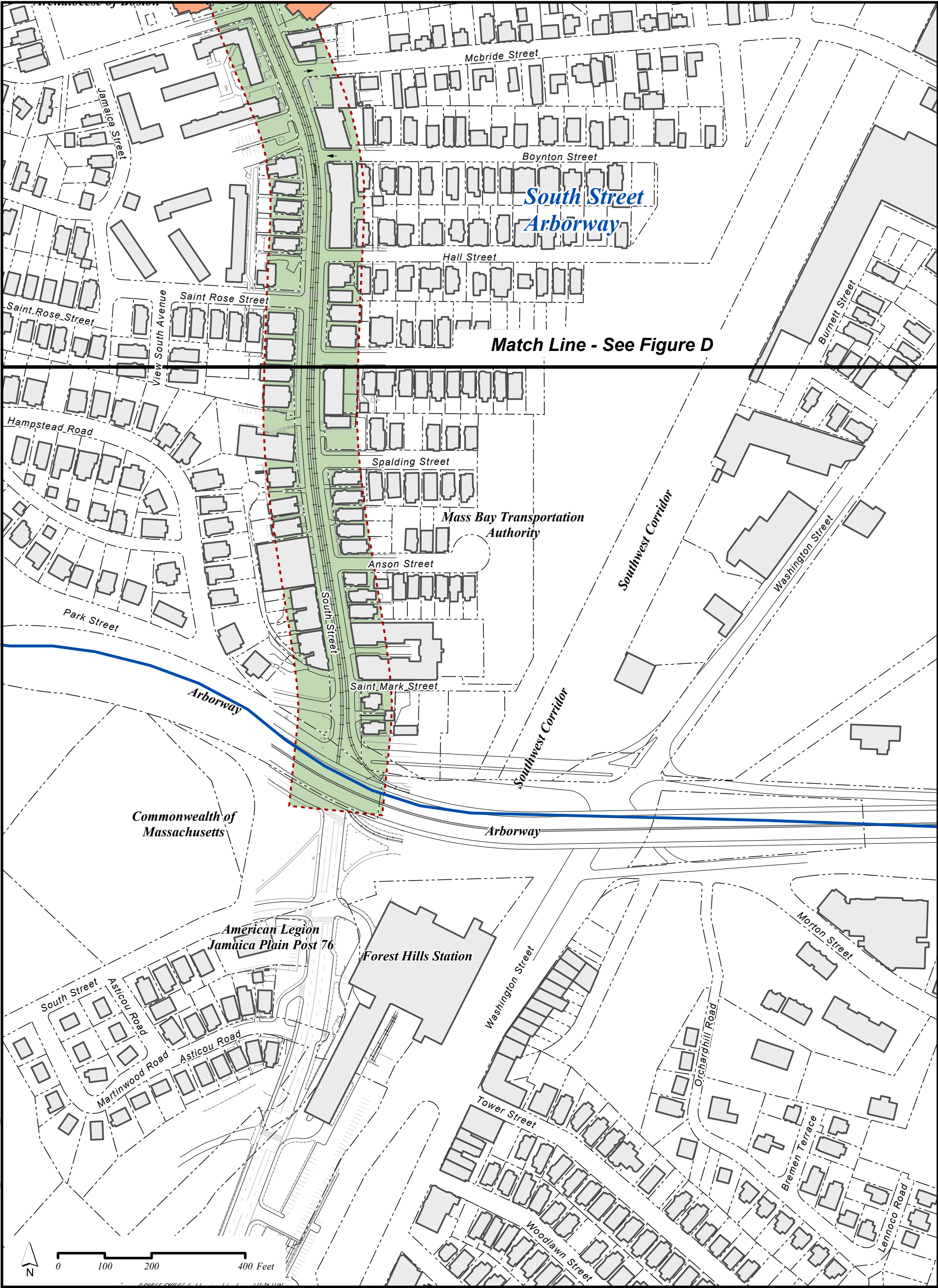
Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
Massachusetts Historical Commission; Boston Landmarks Commission
NRIND; National Register Individual Property

Historic Properties and
Community Facilities

Legend

- Monument Square Historic District
- Area of Potential Effect
- Historic Neighborhoods
- Community Facilities
- Direction of One Way Traffic Flow
- Inventory Property - See Table 3.5-1

Figure: 3.5-2 D



Arborway Streetcar Restoration



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Historic Properties and
Community Facilities

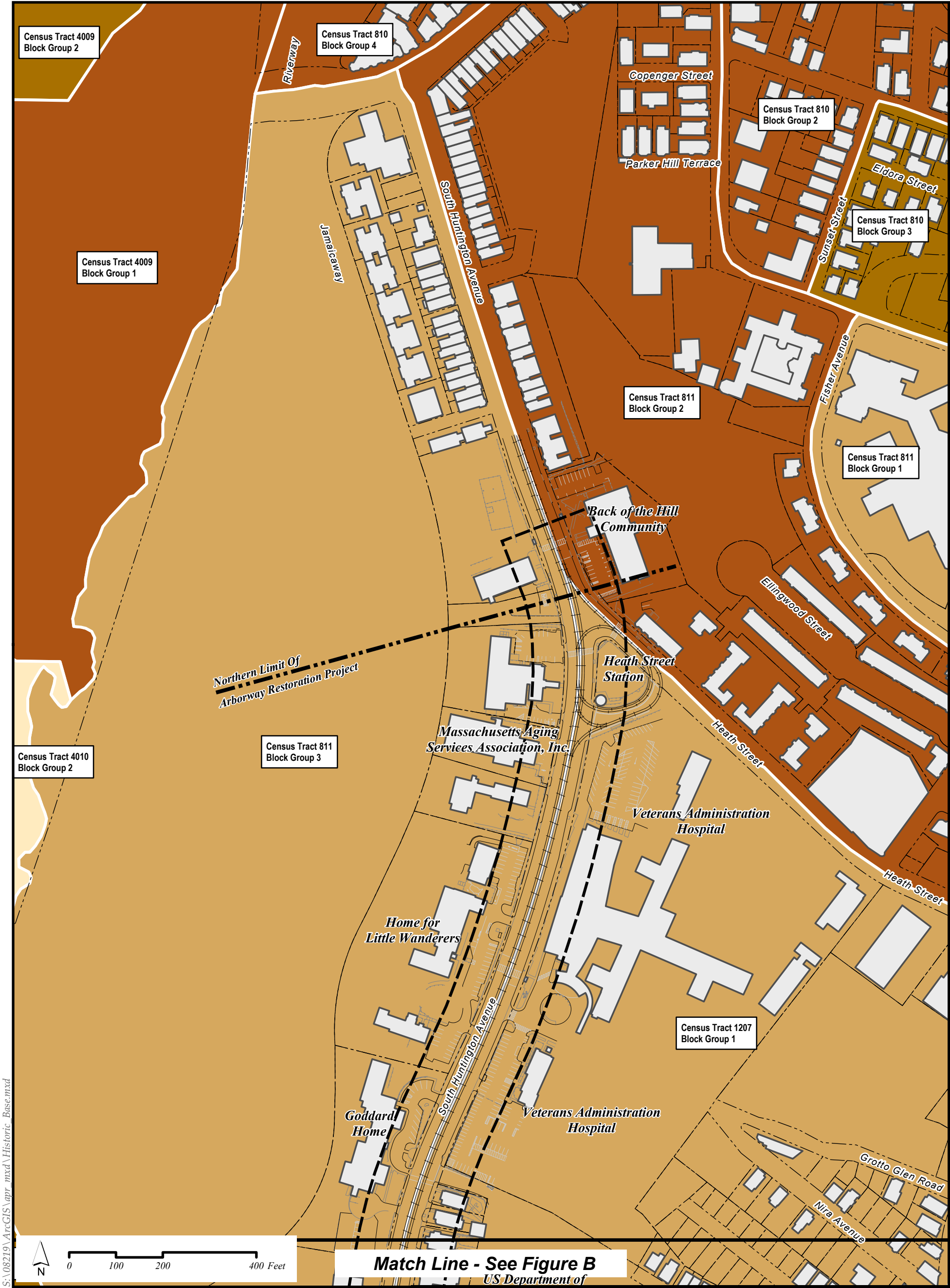
Figure: 3.5-2 E

Legend

- Monument Square Historic District
- Area of Potential Effect
- Historic Neighborhoods

- Community Facilities
- Direction of One Way Traffic Flow
- Inventory Property - See Table 3.5-1

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
Massachusetts Historical Commission; Boston Landmarks Commission
NRIND; National Register Individual Property



Arborway Streetcar Restoration



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Population Distribution

Figure: 3.6-1 A

Legend

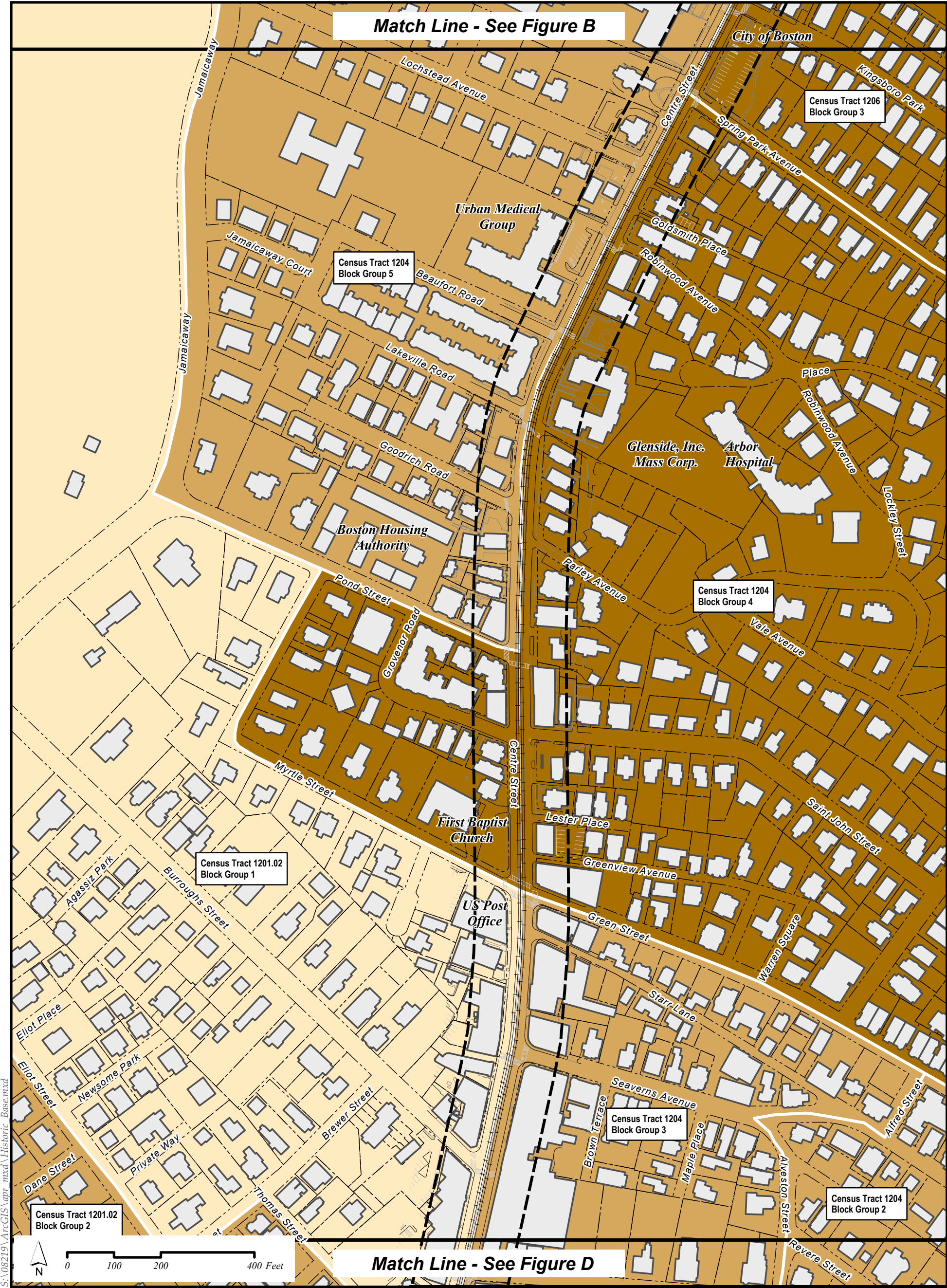
Census Block Group Population / Sq. Mile

0 - 8075	30155 - 48850
8076 - 14700	408851 - 229750
14701 - 30150	



Study Corridor

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
United States Census Bureau; United States Department of Commerce



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Massachusetts
Bay
Transportation
Authority

Population Distribution

Legend

Census Block Group Population / Sq. Mile

0 - 8075	30155 - 48850
8076 - 14700	408851 - 229750
14701 - 30150	

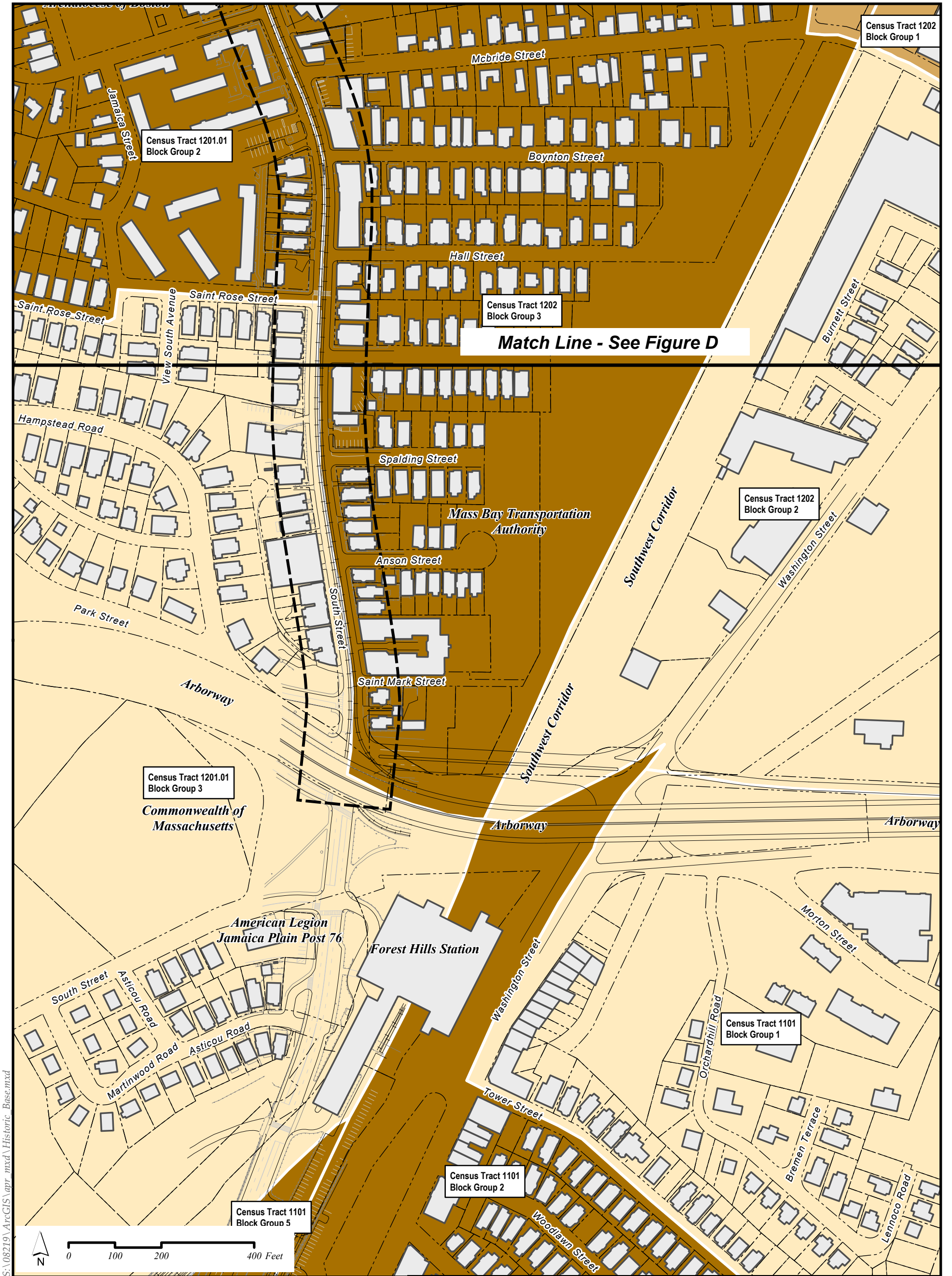


Study Corridor

Arborway Streetcar Restoration

Figure: 3.6-1 C

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
United States Census Bureau; United States Department of Commerce



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Massachusetts
Bay
Transportation
Authority


Population Distribution

Figure: 3.6-1 E

Legend

Census Block Group Population / Sq. Mile

0 - 8075	30155 - 48850
8076 - 14700	408851 - 229750
14701 - 30150	

 Study Corridor

Source:
Parcel Data; City of Boston Assessing Department, 2002
Survey Data; Millennium Engineering, Inc., Salisbury, MA
MassGIS, Commonwealth of Massachusetts Executive Office of Environ. Affairs, 2002
United States Census Bureau; United States Department of Commerce



Appendix C— Public Participation

ARRPAC COMMITTEE MEMBERS

Mr. David Baron
Ms. Mira Brown
Ms. Karen S. Caplan Doherty
Ms. Terry Carney
Ms. Arva Clark
Mr. Thomas R. Davis
Mr. Kosta Demos
Ms. Nancy C. Doherty
Ms. Rosalyn Elder
Mr. David M. Fargen
Mr. Jeffrey T. Ferris
Ms. Elizabeth Fixler
Mr. Richard Krasner
Mr. John S. Kyper
Mr. John Maxfield
Ms. Marta Mejia
Ms. Theresa Meile
Mr. Kevin F. Maloney
Mr. Srdjan S. Nedeljkovic
Mr. Peter Nersesian
Mr. Thomas O'Malley
Mr. Jeff Parker – Director of Subway Operations
Mr. Michael Reiskind
Mr. Adrian Saks
Mr. Franklyn Salimbene
Mr. Andrew C. Schell
Mr. Merlin G. Southwick
Mr. Sean Sullivan
Mr. Kenneth L. Van Zandt
Ms. Karen O. Wepsic
Mr. George Z
Mr. Sal Zirilli
Ms. Joy Silverstein – Fresh Hair
Ms. Catherine E. DuBeau, M.D.
Mr. Neil Blackington - Deputy Superintendent, Boston EMS
Mr. Kevin Mochen - Chief of Operations, Boston Fire Department
Ms. Andrea Garr - Executive Director, Friends of Copley Square
Mr. Vineet Gupta - Boston Transportation Department
Mr. Peter Calcaterra - Massachusetts Bay Transportation Authority



Vanasse Hangen Brustlin, Inc.

38 Chauncy Street, Suite 200
Boston, Massachusetts 02111
617 728-7777
FAX 617 728-7782

Meeting Notes

Attendees: See List Below

Date/Time: 8/7/02 6:30PM

Project No.: 08219

Place: State Lab, Jamaica Plain

Re: ARRPAC "Meet & Greet"

Notes taken by: Kristine Wickham

On August 7, 2002 at 6:30 PM, an informal meeting of the ARRPAC (Arborway Rail Restoration Project Advisory Committee) was held. A summary of the meetings major discussion points follows:

	DESCRIPTION	ACTION ITEM/ DECISION
1.	It was noted that the purpose of this meeting was to introduce the VHB Project Team and review any questions that ARRPAC members had related to the project scope of work. It was explained that the Project Team received the Notice to Proceed on the project on July 30, 2002 and were in the initial stages of getting started on the project.	
2.	Members of the MBTA, the ARPACC and the VHB Project Team were introduced. It was stated that because this was an "informal" meeting, that not all ARRPAC members were in attendance. Barbara Boylan (BB) also stated that Jene Rasmussin recently resigned from the ARRPAC.	
3.	Mike McArdle (MMc), VHB Project Manager, made a brief presentation describing the Consultant Project Team and the goals for the Arborway project.	
4.	BB stated that most members of the ARRPAC had received copies of the project scope of work. Extra copies of the scope were provided for those who did not receive one.	
5.	BB reviewed the MBTA's standard stages of design – Preliminary (30%); Final (60%; 90%; 100%); Final Construction Bid Documents and Specifications; and Construction Phase Services.	
6.	The ARRPAC had several questions and/or comments related to the scope of work and the design of the project. A summary of these discussions follows:	

	DESCRIPTION	ACTION ITEM/ DECISION
7.	<input type="checkbox"/> The question of how construction staging is going to work was asked. Mike McArdle stated that it is too early to clearly define the staging and sequencing for the project, but that there will be a variety of scenarios evaluated and that coordination with the City will be necessary.	
8.	<input type="checkbox"/> A general description of VHB and its work experience was provided. It was stated that VHB is a firm with 350 employees based in the Boston area that consists of Environmental, Land Development and Transportation divisions. Examples of previous work experience are the Beacon Street reconstruction and the Route 3 project.	
9.	<input type="checkbox"/> When asked, BB responded that the City has received a scope of work for their review. They are currently reviewing it. It was noted that one of the City's primary concerns will be related to the proposed Traffic Mitigation Plan.	
10.	<input type="checkbox"/> Clarification of "LRAP" was requested. BB explained that the Light Rail Accessibility Program (LRAP) is the MBTA's system-wide program for making key stations accessible. A member of the Committee requested that sound at crosswalks be considered for the visually impaired. BB stated that sometimes there are issues when using these types of warning devices in residential neighborhoods, but noted that it could be considered.	
11.	<input type="checkbox"/> It was explained that streetscape (i.e. benches, windscreens, etc) is limited to the station areas as part of this project. There are no plans to provide beautification between the station areas. It was explained that coordination with the Parks Department will be necessary. It was noted that in areas where sidewalk widths are modified, there may be the potential for providing streetscape improvements.	
12.	<input type="checkbox"/> It was suggested that street furniture be coordinated with the City's current street furniture contract. Although it was noted that the Arborway Corridor is not part of this project, it may be possible to buy the street furniture in bulk in conjunction with City's program.	BB to investigate street furniture opportunities with City
13.	<input type="checkbox"/> It was stated that on Page 6 of the scope of work, no environmental analysis of soils would be done. It was explained that, as this project progresses if it is found to be necessary then environmental analysis of soils will need to be added the scope.	
14.	<input type="checkbox"/> The Committee requested the MBTA's standard construction practices and standard bid items. BB said that she would provide the MBTA's standard construction terms (also known as Division 1), and would provide an example from another job of the standard bid items.	BB to provide examples of standard bid items and construction standards.

	DESCRIPTION	ACTION ITEM/ DECISION
15.	<input type="checkbox"/> The Traffic/Parking Analysis was discussed. Will there be recommendations on how Jamaica Plain and Forest Hills can improve the parking situation? It was explained that the parking study is limited to the Arborway corridor. The Committee would like to have the traffic reports include references to getting the City involved in other parking improvements. General comments and recommendations will be included in the parking report.	
16.	<input type="checkbox"/> The ARRPAAC requested that the members of the City Working Group be identified once determined. It was noted that the Parks Department, DPW, PIC, BRA, Boston Landmarks and BTDA Engineering Departments will likely be involved in the City Working Group.	BB to schedule interagency coordination meeting.
17.	<input type="checkbox"/> The question of whether DEP will still have a determination in the feasibility of streetcar service was raised. According to the RFP, once 15% design is completed, the project will move forward contingent upon DEP approval of feasibility. The MBTA noted that although DEP has already ruled on the feasibility of streetcar service, coordination with DEP will be ongoing throughout the project.	The MBTA will revisit the RFP wording and clarify for the Committee.
18.	<input type="checkbox"/> The Committee expressed the desire to discuss station locations and other design items in detail. It was noted that the project is in the very early stages and that no design work has formally begun. It was discussed that station stop locations will affect parking and the community wants to minimize the loss of parking spaces. The options of mid-block station stops and intersection station stops were briefly discussed. It was recommended that the Committee send their requests for station locations to the MBTA prior to the next ARRPAAC meeting.	ARRPAAC to send their list of discussion topics, suggestions and proposed station locations to BB for use at future meetings
19.	<input type="checkbox"/> A general schedule for the project was presented. A detailed schedule for each task is in the process of being finalized and will be shared with the ARRPAAC prior to the next meeting.	BB to distribute schedule for project, once finalized.
20.	<input type="checkbox"/> The operation of the streetcars was discussed. The MBTA stated that train operations will require two-car trainsets, with a minimum of one ADA accessible low-floor vehicle (No. 8 car) per trainset. In the future, the MBTA may want to operate three-car trains. Requirements for stations, as used by trainsets, were also discussed. Due to the current operations of the Green Line vehicle, it is not possible to locate the No.8 cars in a specific sequence on each train, so as to minimize the length needed for the station platforms. The necessary length for the station platform was discussed, as well as the Green Line operations from Heath Street to Lechmere Station and the operational issues associated with tail or loop tracks. BB said that the MBTA will investigate further the operations of the streetcar along the Arborway Corridor.	The MBTA to discuss internally streetcar operation opportunities

	DESCRIPTION	ACTION ITEM/ DECISION
21.	<p>❑ The maintenance facility was discussed. BB stated that one of the first tasks for the Project Team will be to review the 0.8 acres site designated for the streetcar maintenance facility currently adjacent to the bus maintenance facility. Concerns were raised related to coordination with the CBCAY and issues with compatibility of fueling, electricity, etc. It was stated that the design must progress forward so that the bus maintenance facility can accommodate any special requirements for the streetcar facility. BB stated that she is involved in both projects and will have meetings set up in the near future to determine the needs for the streetcar facility.</p>	Project Team and MBTA to review requirements for maintenance facility.
22.	The next ARRPAAC meeting is scheduled for 6:30 PM on Thursday, September 19th at the State Lab.	
23.	<p>It was determined that other ARRPAAC meetings will be held on the third Wednesday of the month until the end of the year. Dates for the upcoming meetings are:</p> <ul style="list-style-type: none"> ❑ Wednesday, October 16th ❑ Wednesday, November 20th ❑ Wednesday, December 18th <p>Meetings will begin at 6:30 PM and will be held at the State Lab. Where possible, presentation materials will be distributed in advance of the meeting.</p>	

August 7, 2002 - Attendance Register:

MBTA:

Barbara Boylan
Andrew Brennan
Brian Dwyer
Peter Calcaterra
Lydia Rivera

Project Team:

Mike McArdle, VHB
Rick Carey, VHB
Mike Carragher, VHB
B. MacDonald, HNTB
Dick Conley, HNTB
Steve McElligott, HNTB
Rina Cutler, Rimom Associates

ARRPAC:

Karen Wepsic
Nancy Doherty
John Kyper
Adrien Saks
George Zoullalian
Franklin Salimbene
Merlin Southwick
Peter Nersesian
Joy Silverstein
Jeffrey Ferris
Marta Mejiac

Others:

Anne McKinnon
Edward Barrett
Thomas Kenelly
Jeff Kurland
Allison Rogers
Richard Krasner
Fabiana Scanlan



Vanasse Hangen Brustlin, Inc.

38 Chauncy Street, Suite 200
Boston, Massachusetts 02111
617 728-7777
FAX 617 728-7782

Meeting Notes

Attendees: See Attached Sign-In

Date/Time: 9/19/02 6:30PM

Project No.: 08219

Place: State Lab, Jamaica Plain

Re: ARRPA Meeting #3*

Notes taken by: Luis Mejias/Kristine Wickham

** To date, there have been three official Arborway Rail Restoration Project Advisory Committee (ARRPAC) meetings: Meeting #1 was held on May 22, 2002; Meeting #2 was held on July 10, 2002 and Meeting #3 was held on September 19, 2002. An unofficial ARRPAC "Meet and Greet" was held on August 7, 2002.*

On September 19, 2002 at 7:00 PM, the regularly scheduled meeting with the ARRPAC was held. A summary of the meetings major discussion points follows:

	DESCRIPTION	ACTION ITEM/ DECISION
3.1.0	The meeting notes from the August 7, 2002 meeting, the Meet and Greet with the Consultant Project Team, were discussed and approved. Related issues to the minutes from the last meeting follow:	
3.1.1	<input type="checkbox"/> Concern was expressed that 15% submittal was due in Q4 of 2002, however Mike McArdle, VHB, stated that there is flexibility in the design schedule. He stated that the committee should be focused on the milestone dates. Barbara Boylan then stated that the milestones in the schedule are still being worked out and that the schedule presented at the last meeting is preliminary and subject to change.	
3.1.2	<input type="checkbox"/> It was also brought up by the Committee that the Scope does not have a 30% submittal. Barbara Boylan stated that the consultants will be submitting 30% designs.	
3.2.0	Bill Lieberman, Consultant to the MBTA, introduced a revised Statement of Mission, Focus, Guidelines and Ground Rules for the Committee.	
3.3.0	Bill Lieberman also handed out a table on various station location studies from the past.	
3.4.0	Vineet Gupta, City of Boston, introduced representatives from several City of Boston departments, including BTM, Public Works, the Fire Department and the City Engineer. The Police Department representative could not attend but would be informed of the proceedings. Mr. Gupta stated that the City is fully committed to this project.	

	DESCRIPTION	ACTION ITEM/ DECISION
3.5.0	The ARRPAC had several questions and/or comments related to the traffic and the environmental studies. A summary of this discussion follows:	
3.5.1	<input type="checkbox"/> The question of the extent of the traffic model was asked. Barbara Boylan stated that the traffic analysis limits and pedestrian studies cannot be set until station locations are determined. Traffic engineering will be discussed at another meeting.	
3.5.2	<input type="checkbox"/> A question on the DEP review was also asked. Andrew Brennan described the DEP process, stating that the MEPA process would need to be followed under regulation 7.36. He stated that the DEP already approved the mesoscale air quality analysis by mandating this project. The microscale air quality analysis has to be approved by the DEP.	
3.6.0	The requirement of two-car consists was discussed. Barbara Boylan stated that operating a single-car for Arborway service and then "coupling" another car at Heath Street was not feasible for operations since the coupling introduces the risk of mechanical problems in addition to the MBTA requirement that no passengers be on board when trains are being coupled. Additionally, Mike McArdle stated that operating single-cars on the E line would introduce operational difficulty on the rest of the Green Line since trains are often moved between branches on short notice to maintain schedules.	
3.7.0	The Committee assumed that the operation of two-car trains was during peak period only, and at other times single-car trains would be operated. One recommendation was that MBTA operations should consider running one-car trains during midday and weekend periods.	MBTA Operations to examine and discuss trainset make- up and operating parameters at future meeting.
3.8.0	Following the general topics discussion, the VHB Project Team gave a progress report. Mike McArdle stated that the inventory based on the initial flyover and corridor investigations was complete. This data includes a parking space inventory, location of hydrants, the intersection data, traffic accident data, old station stops and 1997 bus ridership data for current bus stops. More detailed information from the survey team is due soon, and this information will include a detailed inventory of ground conditions along the corridor.	
3.9.0	The Committee recommended that more attention be paid to commercial vehicles (loading zones) than on private vehicle parking.	
3.10.0	Barbara Boylan introduced the main topic for the evening: station locations. She stated that it is important for the locations to be determined so the study can move forward on schedule.	

	DESCRIPTION	ACTION ITEM/ DECISION
3.11.0	Rick Carey, VHB, presented the two station design options on a 40' wide street, typical plan of South Street. These concepts were provided in the color handouts given to ARRPAC members. Option 1 showed the concept of trolleys pulling over to the curbline at station locations. Option 2 showed the concept of the curb line being extended out to the travel lane at stations, also called "bulb-outs".	
3.12.0	<p>The Committee had the following comments on the two options:</p> <p><u>Option 1</u></p> <ul style="list-style-type: none"> ❑ Option 1 takes too many parking spaces (possibly four parking spaces more than Option 2). ❑ It also creates the opportunity for more trolley – car accidents and car – pedestrian accidents at station stops. ❑ It was stated that specialized signals for trolleys would need to be provided so that the trolley could merge with traffic when leaving the curbside. Bill Lieberman concurred. ❑ Option 1 has less room for station amenities such as benches and trash receptacles. ❑ With train lengths over 140 feet, passing would be dangerous as a result of limited sight distances. ❑ Option 1 is generally not used by other transit agencies. 	
3.13.0	<p><u>Option 2</u></p> <ul style="list-style-type: none"> ❑ Option 2 takes fewer parking spaces. ❑ The bulb-out would be 130 feet long – the distance from the front door of the first car to the last door of the second car. ❑ There was discussion of the ADA requirements, and Steve Spinetta, City of Boston, stated that because this project is new construction, the stations must be constructed to be "fully accessible". ❑ It was also stated that the MBTA will only be purchasing low-floor cars in the future, and both cars will be accessible in the long-range plan. ❑ In the MBTA's operations, the position of the low-floor car (either first or second car) in the trainset can change. As such, the platform must accommodate the potential that either car will be the accessible car. ❑ Option 2 allows for better regulation of traffic, by not allowing cars to try and pass trolleys. 	MBTA will bring information on trolley cars to next meeting
3.14.0	It was stated that both Option 1 and Option 2 could be used along the corridor. The Committee recommended studying the possibility of using a center platform on South Huntington Avenue.	VHB to investigate the possibility of center island platforms on South Huntington Ave.

	DESCRIPTION	ACTION ITEM/ DECISION
3.15.0	There was a discussion on the preference to locate stations on the near or far side of an intersection. Don Cooke, VHB, stated that with far side stations, the trolley has the potential to block traffic movements at the intersection for cross street traffic. More investigation on the location of platforms will follow after the general site of stations are identified.	
3.16.0	Vineet Gupta stated that bulb-outs on corners where there are no stations would be too restrictive on traffic.	
3.17.0	Considerations for persons with disabilities and elderly housing are needed. Census data is available and this information should be added to base mapping.	Disabled person and elderly housing information will be obtained from City of Boston and included on base mapping.
3.18.0	Barbara Boylan also pointed out that there are no requirements for station amenities for curbside stations. Requirements for station amenities, such as benches, only apply to enclosed stations. However, space for amenities will be provided.	
3.19.0	It was agreed that the decision on the type of station could not be made until the station locations were determined and that only a few locations would be suitable for Option 1.	
3.20.0	Mike McArdle then led the discussion on the VHB Project Team's initial station location recommendations. The preliminary recommendations for station are at the following locations: <ul style="list-style-type: none"> - South Street at the intersection of St. Rose Street - Monument - Centre Street at the intersection of Burroughs Street and Robinwood Street - South Huntington Avenue at the intersection of Bynner Street 	
3.21.0	The Committee had several comments on the station locations presented: <ul style="list-style-type: none"> <input type="checkbox"/> Stations should be located near elderly housing to make the trolley more accessible to them. <input type="checkbox"/> The benefit of a station directly in the Central Business District (CBD) was discussed. Some Committee members stated that the station should be on the outskirts of the CBD, while others claimed a station in the heart of Jamaica Plain should be focused on the epicenter of business activity. <input type="checkbox"/> There should be more than one stop located between Forest Hills and South Street. Possibly near the lower end of South Street. 	VHB will located elderly housing along the corridor.

	DESCRIPTION	ACTION ITEM/ DECISION
3.22.0	Several members recommended that more stations be added. These stations are at the following locations: <ul style="list-style-type: none"> - Anson Street - Child Street - Green Street - Perkins Street - The VA Hospital since those riders do not board buses at Heath Street. 	VHB will consider these additional station stops for discussion at the next meeting.
3.23.0	It was suggested that stations could be staggered along the corridor, not necessarily corresponding with a station on the opposite side of the street.	VHB to investigate the feasibility.
3.24.0	The Committee would like to see bus stops merged with trolley stops.	
3.25.0	The City recommended that the traffic and parking study encompass side streets in addition to the main corridor because displaced parkers will seek spaces on side streets.	
3.26.0	Vineet Gupta also mentioned that the City has GeoSpan, an interactive tool that allows people to "stand" in one spot and turn around completely along the entire corridor.	City will bring GeoSpan to next meeting.
3.27.0	It was reiterated that Route 39 would be discontinued when trolley service is restored. Service will be discussed at the November meeting.	
3.28.0	After the next meeting, a list of proposed station locations should be made available for public comment.	
3.29.0	The next meeting will be held on October 16, 2002 at 7PM at the State Lab.	

Attachments

- ☐ Sign-In Sheet

MBTA Arborway Restoration Project

ARRPAC MEETING

Attendance Register

September 19, 2002

6:30 PM – 8:30 PM

* Please update or add information, if necessary

Name:	Affiliation	Email Address:	✓ if in Attendance
Baron, David	ARRPAC/Citizen	dbaron@mindspring.com	✓
Blackington, Neil	ARRPAC/EMS	blackington@bostonems.org	✓ <i>ARRPAC</i>
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Brennan, Andrew	MBTA	abrennan@MBTA.com	✓
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Carney, Terry ✓	ARRPAC/Citizen	<i>mbta</i>	✓
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Gupta, Vineet	ARRPAC/BTD	Vineet.gupta@cityofboston.gov	✓
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Lieberman, William	Consultant to the MBTA		✓
Maxfield, John	ARRPAC/Mayor's Office	Maxfield_co@msn.com	<i>John</i>

MBTA Arborway Restoration Project

ARRPAC MEETING

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Corney, David	MBTA	DCorney@MBTA-Com	✓
Gowdy, Elaine	City Councillor John Tobin		✓
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SAL ZIRILLI			
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RICK CAREY	VHB	RCAREY@VHB.COM	✓

ARRPAC MEETING

[illegible]



Vanasse Hangen Brustlin, Inc.

38 Chauncy Street, Suite 200
Boston, Massachusetts 02111
617 728-7777
FAX 617 728-7782

Meeting Notes

Attendees: See Attached Sign-In

Date/Time: 11/6/02 7:00 PM

Project No.: 08219.00

Place: State Lab, Jamaica Plain

Re: ARRPAC Meeting #4*
Revised Meeting Minutes

Notes taken by: Kristine Wickham

Note: An ARRPAC Meeting was held on 10/16/02 and a continuation of this same meeting was held on 11/6/02. Minutes for the 10/16/02 meeting were distributed at the 11/6/02 ARRPAC meeting. These meeting minutes are an appended version of the previous notes to include discussions at the 11/6/02 meeting.

On November 6, 2002 at 7:00 PM, a continuation of the October 16, 2002 meeting with the ARRPAC was held.

A summary of the October 16, 2002 meeting's major discussion points follows:

	DESCRIPTION	ACTION ITEM/ DECISION
4.1.0	The meeting opened with ten minutes of public comment:	
4.1.1	<input type="checkbox"/> Karen Caplan Doherty spoke on behalf of the Asticou-Martinwood-South Street Neighborhood Association (AMSNA) formally requesting an extension of the boundaries of the project study area for all surveys and studies specific to traffic and environmental issues. AMSNA will submit this request in writing to the MBTA, as well as provide a letter from Boston City Councillor, John Tobin.	AMSNA formally submitted a request for project limits extension.
4.2.0	The meeting notes from the September 19, 2002 ARRPAC meeting were discussed and approved.	
4.3.0	Dr. Srdjan Nedeljkovic distributed copies of a report on the station design and locations that he revised based on the September 19 th ARRPAC meeting.	
4.4.0	The stations locations discussed at the previous ARRPAC meetings were reviewed. It was noted that senior housing/assisted living was added to the plans to aid in selecting station locations. Conceptual renderings of the proposed station layouts were distributed to the ARRPAC.	

	DESCRIPTION	ACTION ITEM/ DECISION
4.5.0	Several of the proposed concepts for station locations were reviewed with the ARRPAC. It was explained that the plans provided to the ARRPAC show a general layout and are for concept purposes only. Each station layout will be refined once the station locations are finalized and as the design progresses.	
4.6.0	Discussion related to the specific station locations was as follows:	
4.6.1	<u>Monument Station (Eliot Street):</u> <ul style="list-style-type: none"> ❑ It was explained that buses currently layover in this area and turn around at the Monument. Layover will need to be addressed as part of design. ❑ Sidewalk is wider here, which may lend itself to a curbside station layout. ❑ The outbound (OB) platform would be located in the vicinity of AAA Appliances, which is a heavy loading area with a lot of activity for the area. ❑ It was noted that AAA Appliances has loading in the back of its business. It was suggested that the OB platform could possibly be a curbside design as an option to allow some front door deliveries. ❑ It was suggested that the inbound (IB) platform be further located to the south in the vicinity of Curtis Hall. ❑ The staggered layout of the platforms was noted as being beneficial for fire trucks to maneuver around. ❑ There was general consensus that Monument is a preferred location for a station. 	<p>There was general consensus that Monument is a proposed station location for further consideration.</p> <p>Project Team to review layout of station platforms and impacts on bus staging areas, parking, etc.</p>
4.6.2	<u>Moraine Street:</u> <ul style="list-style-type: none"> ❑ It was explained that this section on South Huntington is a wide area and can accommodate cars that pass slowly. ❑ The proposed OB platform is in front of Triple D's, which would temporarily block a driveway when a train is in the station. ❑ The proposed IB platform shown on the plan is in the vicinity of Roseway. However, Bill Lieberman suggested the possibility of moving the IB platform to in front of 711. This would require closing the north driveway to 711, but is possible. ❑ It was asked whether center island platforms were possible. It was explained that due to the way that the MBTA currently does its fare collection, center island platforms on the Green Line are not feasible. ❑ Other scenarios for the station layout were proposed, but consensus was to locate a station at Moraine Street in the similar configuration shown on the plans. 	<p>There was general consensus that Moraine Street is a proposed station location for further consideration.</p> <p>Project Team to review layout of station.</p>

	DESCRIPTION	ACTION ITEM/ DECISION
4.6.3	<p><u>Perkins Street:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> The proposed IB platform may require relocation of the MSPCA driveway or adjustments to the wall section in the vicinity. <input type="checkbox"/> In general, the OB platform location shown on the plans was acceptable to the committee. <input type="checkbox"/> The committee agreed that the Perkins Street station should be located closer to the intersection, if possible. 	<p>There was general consensus that Perkins Street is a proposed station location for further consideration. Project Team to review layout of station.</p>
4.6.4	<p><u>Bynner Street:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> It was suggested that the OB platform be located on the nearside, or north side, of the Bynner Street intersection. <input type="checkbox"/> It was suggested that the IB platform be located on the farside, or north side, of the Bynner Street intersection. <input type="checkbox"/> In this configuration, the platforms would be located opposite one another. However, it was noted that South Huntington is wider than the other sections and that this would be acceptable, as it would be possible for an emergency vehicle to get through. 	<p>There was general consensus that Bynner Street is a proposed station location for further consideration. Project Team to review layout of station.</p>
4.6.5	<p><u>VA Hospital:</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> The proposed OB platform shown on the plans is located near the hospital entrance. <input type="checkbox"/> It was suggested that the location of the proposed IB platform be moved a little south to accommodate the driveway. Although there would be some parking loss, it was noted that there is less of a need for on-street parking in this area. <input type="checkbox"/> Some discussion was held on whether to combine Bynner and the VA Hospital stations, eliminate a VA Hospital stop, or eliminate the Heath Street station. It was generally agreed that the type of passengers who currently utilize this location would need to continue to be accommodated. <input type="checkbox"/> There was general consensus on providing a station stop at the VA Hospital in the proximity of the current pedestrian crossing. 	<p>There was general consensus that the VA Hospital is a proposed station location for further consideration. Project Team to review layout of station.</p>

	DESCRIPTION	ACTION ITEM/ DECISION
4.6.6	<u>Heath Street:</u> <ul style="list-style-type: none"> <input type="checkbox"/> It was asked if Heath Street station would be reconstructed or not as part of this project. Layout options and the operations Heath Street were discussed. The MBTA will determine if reconstruction of Heath Street is to be part of this project. 	The MBTA will determine if reconstruction of Heath Street is to be part of this project and how operations at this location will be handled.
4.6.7	With regard to the business district, a number of the ARRPAC were in agreement that the area is heavily trafficked and congested and the area should be "bracketed" by the stations. Meaning, stations would be located on the ends of the business area, rather than directly in the center of it. Concerns were expressed about creating longer distances for the elderly to walking within the business district.	
4.6.8	<u>Burroughs Street:</u> <ul style="list-style-type: none"> <input type="checkbox"/> Discussion of the proposed IB platform suggested the area of the church or in front of Classic Cleaners. <input type="checkbox"/> It was noted that loading for the hardware store occurs from the front only. <input type="checkbox"/> Concerns about losing parking in front of the dry cleaners were expressed. It was noted that these are not legal parking spaces. <input type="checkbox"/> The proposed OB platform is located immediately north of Green Street in front of the church. <input type="checkbox"/> There were concerns expressed about conflicts with the Green Street intersection. <input type="checkbox"/> There was discussion suggesting that this proposed station stop be eliminated. 	Discussion about Burroughs Street location to continue at next ARRPAC meeting.
4.6.9	<u>Green Street:</u> <ul style="list-style-type: none"> <input type="checkbox"/> The proposed IB platform location is just south of Seaverns Street. <input type="checkbox"/> The proposed OB platform location is in front of the church. <input type="checkbox"/> Due to its proximity to Burroughs Street, it was suggested that Burroughs and Green Street stations be revisited. 	Discussion about Green Street location to continue at next ARRPAC meeting.

	DESCRIPTION	ACTION ITEM/ DECISION
4.6.10	<p><u>South of Monument (South Street):</u></p> <ul style="list-style-type: none"> <input type="checkbox"/> Proposed stations between Monument and Forest Hills were discussed at Anson Street, Spalding Street, Child Street and St. Rose Street. <input type="checkbox"/> It was explained that Anson Street has little neighborhood feeders and no special populations in the area. <input type="checkbox"/> It was explained that there should be a station stop at the Farnsworth development at Child Street. Possible ideas were an IB platform south of Child Street and an OB platform north of Child Street. <input type="checkbox"/> There was general consensus that station stops at Child Street would be preferred. No station stops will be located at Anson Street or Spalding Street. A potential stop at St. Rose Street will be discussed at the next ARRPAAC. 	<p>There was general consensus that a station stop at Child Street is a proposed station location for further consideration.</p> <p>No station stops will be located at Anson Street or Spalding Street.</p> <p>St. Rose Street will be discussed at the next meeting.</p>
4.7.0	<p>Agreement was reached on the following station locations for further consideration:</p> <p>VA Hospital Bynner Street Perkins Street Moraine Street Monument Child Street</p>	
4.8.0	<p>At the next meeting, more discussion will be held to review the following station locations:</p> <p>Green/Myrtle Street Burroughs Street Robinwood St. Rose Street</p>	ARRPAAC to discuss remaining proposed stations at next meeting.
4.9.0	<p>It was asked if the locations of the stations would be presented to the community. Bill Lieberman stated that the December meeting would be a larger community forum for this type of discussion.</p>	
4.10.0	<p>It was asked if the light rail vehicles (LRVs) could be retrofitted with items such as bars and lights to guide passengers safely around the vehicles. MBTA expressed concerns as to how these additional elements on the vehicles would affect operations of the vehicles in the subway.</p>	MBTA to review possibility of attaching safety features to LRVs.

	DESCRIPTION	ACTION ITEM/ DECISION
4.11.0	The committee expressed other concerns. A sub-group of the committee has met separately and reviewed the scope of work. They are concerned that if the schedule is to be met then monthly meetings with the ARRPAAC do not seem to be frequent enough. It was suggested that the ARRPAAC meet more frequently. It was recommended the ARRPAAC have a "continuation" of meeting #4 on Wednesday, November 6, 2002 to finalize the station location discussion.	An additional ARRPAAC meeting will be held on 11/6/02 to finalize the station location discussion.
4.12.0	It was also discussed that the ARRPAAC would like to know the dates that decisions need to be made by the committee in order to maintain the current schedule. It was explained that future meeting agendas will be prepared based off the project schedule and reviewed at the next meeting.	MBTA to prepare ARRPAAC agendas and review with ARRPAAC and review at 11/6 meeting.
4.13.0	The question was raised of how the ARRPAAC can track action items and resolutions from previous meetings. Barbara Boylan explained that the project team is keeping a separate Action Items list identifying the dates that issues are resolved. Ms. Boylan stated that she would share this tracking list with the ARRPAAC.	MBTA to distribute Action Items list to ARRPAAC
4.14.0	The next meeting will be held on November 6, 2002 at 7PM at the Agassiz School.	

A summary of the November 6, 2002 meeting's major discussion points follows:

	DESCRIPTION	ACTION ITEM/ DECISION
4.15.0	The meeting opened with ten minutes of public comment:	
4.15.1	<input type="checkbox"/> Concerns were expressed that vehicles not block Starr Lane and that emergency vehicles be able to make the turns onto Starr Lane.	
4.15.2	<input type="checkbox"/> It was suggested that once the station locations are selected that a presentation to the public be made. Ms. Boylan stated that the MBTA is hoping to have a public meeting during December.	
4.15.3	<input type="checkbox"/> It was requested that in selecting station locations that a balance between business needs and residential needs be found. It was suggested that the focus of the station selection not be solely on the businesses and the number of parking spaces lost.	
4.15.4	<input type="checkbox"/> One resident expressed concern about removal of a stop at St. Rose Street.	
4.15.5	<input type="checkbox"/> Concern about having too many station stops and the impact on operations was expressed.	
4.15.6	<input type="checkbox"/> It was stated that this project should take into consideration the need of the transit rider and the elderly and not be ruled by making accommodations for vehicles.	

	DESCRIPTION	ACTION ITEM/ DECISION
4.15.7	❑ One citizen stated that they do not want the stop at Pond Street to be affected.	
4.15.8	❑ The question of when safety would be addressed was raised. Specifically, accommodations for safety for bikes and safety on the tracks when wet were questioned.	
4.15.9	❑ A comment was made that the agendas for the upcoming ARRPAAC meetings should be shared with the community. A list of the potential upcoming agenda items for the ARRPAAC meetings was distributed to the committee.	BB will provide upcoming ARRPAAC agendas to newspaper.
4.15.10	❑ A representative from the Asticou-Martinwood-South Street Neighborhood Association (AMNSA) stated that they would like to make contact with neighbors in the community to discuss the project.	
4.16.0	BB summarized the results of the 10/16/02 ARRPAAC meeting. Revised sketches of several of the station stops were distributed to the group based on comments at the previous meeting. It was noted that the goal of this meeting was to review those stations that had been tabled previously – St. Rose, Burroughs, Green Street, Rosewood.	
4.17.0	This question of how and when safety is being handled was asked. It was explained that safety is inherent in all of the designs along the corridor and that safest alternatives possible will be developed.	
4.18.0	<u>St. Rose Street:</u> <ul style="list-style-type: none"> ❑ It was explained that there was general consensus about locating a station at Child Street at the last meeting. The need for having a station located between Forest Hills and Child Street was discussed. ❑ It was stated that a greater number of station stops would have an adverse affect on operations. ❑ Some other suggestions were to add a stop at Rosemary or Spalding, or move the OB platform at Child Street closer to St. Rose. ❑ It was noted that Anson Street had been eliminated as part of the previous meeting. ❑ It was agreed that St. Rose Street would be eliminated as a station stop and that the Child Street stop would attempt to have the IB platform at the Farnsworth House at Child Street and the OB platform closer to Jamaica Street. 	There was general consensus that St. Rose Street would be eliminated as a stop, and that opportunities to modify the Child Street OB platform closer to the south would be investigated.

	DESCRIPTION	ACTION ITEM/ DECISION
4.19.0	<u>Robinwood Avenue/Beaufort Road:</u> <ul style="list-style-type: none"> <input type="checkbox"/> The concept is to provide the OB platform north of Beaufort Road at the Urban Medical Group. <input type="checkbox"/> The IB platform would be located between Burrage Street and Beaufort Road. <input type="checkbox"/> It was noted that the Urban Medical Group is a big employer in the area. <input type="checkbox"/> There was general agreement on this station location. 	There was general consensus that a station stop at Beaufort Road is a proposed station location for further consideration.
4.20.0	The potential of locating stations at Burroughs, Pond and Beaufort was discussed.	
4.21.0	Locating stations within the business district was discussed. Concerns were expressed about obstructing deliveries to businesses and loitering occurring at station stops.	
4.22.0	Bus services need to be discussed in future meetings.	
4.23.0	<u>Burroughs Street/Seaverns Street/Green Street area:</u> <ul style="list-style-type: none"> <input type="checkbox"/> Some individuals of the ARRPAC requested that a station stop be located at Burroughs Street. <input type="checkbox"/> Others advocated for locating a station between Green Street and Burroughs Street. <input type="checkbox"/> It was proposed that the OB platform be located north of Green Street in front of the Baptist Church. <input type="checkbox"/> It was proposed that the IB platform be located between Burroughs Street and Seaverns in front of some of the businesses. <input type="checkbox"/> Others suggested that the IB platform be located between Seaverns and Green Street and modified so as to not block Starr Lane. <input type="checkbox"/> It was requested that the Baptist Church be made more pedestrian friendly across Myrtle Street. <input type="checkbox"/> Burroughs Street was eliminated as a potential station stop. <input type="checkbox"/> General consensus (excluding Sean Sullivan who was opposed to this concept) was obtained that the area around Seaverns Street and Green Street should be considered for a station stop. <input type="checkbox"/> There was a difference of opinion as to locating the station north or south of Green Street. <input type="checkbox"/> Additional analysis of the station configuration will be necessary. 	<p>Burroughs Street was eliminated as a potential station stop.</p> <p>General consensus was obtained that the area around Seaverns Street and Green Street should be considered for a station stop.</p> <p>Additional analysis of the station configuration will be necessary.</p>
4.24.0	Vineet Gupta of the City noted that the station selection process is a beneficial thing. However, it is important for everyone to understand that the final locations and configurations of the stations will be dependent upon the findings of the traffic analyses. Further analysis will be necessary before the final station locations can be determined.	
4.25.0	It was expressed that the traffic study should include counts for the Forest Hills area.	

	DESCRIPTION	ACTION ITEM/ DECISION
4.26.0	It was explained that impacts of the service would be discussed in future meetings.	
4.27.0	BB stated that members of the committee should review the meeting minutes from the 10/16/02 meeting and send their comments or mark-ups to BB.	
4.28.0	BB will give materials to the committee members to distribute to the public and get feedback on. BB will also reissue the name of the ARRPAC members with a note suggesting that individuals can contact them. Concerns were expressed about distributing information to the public without a thorough explanation of the reasoning behind the decisions.	BB to send materials that can be used to inform the public. BB to reissue committee member's names in newspaper.
4.29.0	A public meeting will be held sometime in December to present the ARRPAC's work to the community.	
4.30.0	A copy of the detailed schedule was requested.	BB to send pdf of the schedule to the ARRPAC members.
4.31.0	The next meeting will be held on November 20, 2002 at 7PM at the State Lab.	

Attachments

- ☐ Sign-In Sheet

MBTA Arborway Restoration Project

ARRPAC MEETING

Attendance Register

November 6, 2002

7:00 PM – 9:00 PM

* Please update or add information, if necessary

Name:	Affiliation	Email Address:	✓ if in Attendance
Baron, David	ARRPAC/Citizen	dbaron@mindspring.com	✓
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Gupta, Vineet	ARRPAC/BTD	Vineet.gupta@cityofboston.gov	✓
Jayasinghe, Para	City of Boston, Pubic Works		
Krasner, Richard	ARRPAC/Citizen	rkrasner@harvestcoop.com	✓
Kyper, John	ARRPAC/Citizen	jkyper@gis.net	
Lieberman, William	Consultant to the MBTA	None	
Maxfield, John	ARRPAC/Mayor's Office	Maxfield_co@msn.com	
Mejia, Marta	ARRPAC/Citizen	martamejiac@hotmail.com	<i>M.</i> ✓
Miele, Theresa	ARRPAC/Citizen	None	

MBTA Arborway Restoration Project

ARRPAC MEETING

Name:	Affiliation	Email Address:	✓ if in Attendance
Mochen, Kevin	ARRPAC/BFD	Kevinm.bfd@ci.boston.ma.us	✓
Moloney, Kevin	ARRPAC/CCHennigan	moloneys@mindspring.com	
Nedeljkovic, Srdjan	ARRPAC/Citizen	srdjan@zeus.bwh.harvard.edu	Srdj Nedeljk
Nersisyan, Peter	ARRPAC/Sen. Joyce	pnerses@softhome.net	✓
O'Malley, Thomas	ARRPAC/Citizen	tjo'malleyre@aol.com	✓
Reiskind, Michael	ARRPAC/Citizen	jpmichael@rcn.com	✓ MR
Rogers, Alison	City of Boston, Mayor's Office	None allison.rogers@ci.boston.ma.us	✓
Saks, Adrien	ARRPAC/Rep. Rushing	asaks@partners.org	✓
Salimbene, Franklyn	ARRPAC/Citizen	fsalimbene@aol.com	✓
Santay, Michael	City of Boston, BPD	None	✓ MSS
Schell, Andrew	ARRPAC/Citizen	None	
Silverstein, Joy	ARRPAC/Citizen	freshhair@aol.com	✓
Southwick, Merlin	ARRPAC/Citizen	mgsouthwick@attbi.com	✓
Spinetto, Stephen	City of Boston, Commission for Persons with Disabilities	None	
Sullivan, Sean	ARRPAC/Rep. Smizik	arborway@bluebrook.com	✓
Van Zandt, Kenneth	ARRPAC/BPD	Vanzandt1.bpd@ci.boston.ma.us	✓
Wepsic, Karen	ARRPAC/Citizen	Karen_wepsic@bms.harvard.edu	✓
Zirilli, Michael	ARRPAC/Citizen	None	✓
Zoulalian, George	ARRPAC/Sen. Wilkerson	Geopz99@aol.com	✓
Daver Tom	Citizen	Thosdavey@aol.com	
Scott, Sylvia	BHA - Public	Sylvia.Scott@bostonhousing.org	✓
SAL ZIRILLI	ARRPAC		✓
Jon Truslow	resident - Belmont		
Alan Smith	resident - Greenough Ave.		✓
Anne Kaufman	resident - Greenview Ave.	annesjk@aol.com	✓
Richard Youngstrom	resident		X
Andy Calafut	resident	andy.calafut@earthlink.net	✓
Elaine Gowdy	Office of City Councillor	John Tobin	✓
Richard Mulhen	Boston Fire	Dept D-9	✓
Ray Cielencki	resident	rayslinky@yahoo.com	✓
Alfred Davis	BHA	Alfred.Davis@bostonhousing.org	✓

ARRPAC MEETING

357-1

MBTA Arborway Restoration Project

ARRPAC MEETING

Attendance Register

October 16, 2002

7:00 PM – 9:00 PM

* Please update or add information, if necessary

Name:	Affiliation	Email Address:	✓ if in Attendance
Baron, David	ARRPAC/Citizen	dbaron@mindspring.com	✓
Blackington, Neil	ARRPAC/EMS	blackington@bostonems.org	AMB
Boylan, Barbara	ARRPAC/MBTA	bboylan@MBTA.com	✓
Brown, Mira	ARRPAC/Citizen	mira@bikesnotbombs.com	✓
Calcaterra, Peter	ARRPAC/MBTA	pcalcaterra@mbta.com	✓
Carney, Terry	ARRPAC/Citizen	None	
Clark, Arva	ARRPAC/Citizen	arvaclark@earthlink.net	
Davis, Tom	ARRPAC/Citizen	tomd@tcblnc.org	JD ✓
DeBeau, Catherine, Dr.	ARRPAC/Citizen	cdubeau@caregroup.harvard.edu	
DeNisco, Ralph	City of Boston, BTB	Ralph.DeNisco@ci.boston.ma.us	✓
Demos, Kosta	ARRPAC/CCTobin	kostademos@earthlink.com	
Doherty, Karen Caplan	ARRPAC/Citizen	caplandoherty@aol.com	✓
Doherty, Nancy	ARRPAC/Rep. Malia	Zncd2@yahoo.com	ND ✓
Dwyer, Brian	ARRPAC/MBTA	bdwyer@mbta.com	BD ✓
Elder, Rosalyn	ARRPAC/Citizen	None	
Fargen, David	ARRPAC/CCRoss	dayfar@earthlink.net	
Ferris, Jeffrey	ARRPAC/Citizen	jferris@theworld.com	
Fixler, Elizabeth	ARRPAC/Citizen	None FAX 617 327-6898	✓
Garr, Andrea	ARRPAC/Friends of Copley Sq.	Copleysq@aol.com	
Gupta, Vineet	ARRPAC/BTD	Vineet.gupta@cityofboston.gov	✓
Jayasinghe, Para	City of Boston, Pubic Works		Pms
Krasner, Richard	ARRPAC/Citizen	rkrasner@harvestcoop.com	RK ✓
Kyper, John	ARRPAC/Citizen	jkyper@gis.net	✓
Lieberman, William	Consultant to the MBTA	None	✓
Maxfield, John	ARRPAC/Mayor's Office	Maxfield_co@msn.com	✓
Mejia, Marta	ARRPAC/Citizen	martamejiac@hotmail.com	✓
Miele, Theresa	ARRPAC/Citizen	None	

MBTA Arborway Restoration Project

ARRPAC MEETING

Name:	Affiliation	Email Address:	✓ if in Attendance
Mochen, Kevin	ARRPAC/BFD	Kevinm.bfd@ci.boston.ma.us	
Moloney, Kevin	ARRPAC/CCHennignan	moloneys@mindspring.com	<i>[Signature]</i>
Nedeljkovic, Srdjan	ARRPAC/Citizen	srđian@zeus.bwh.harvard.edu	<i>Srdjan Nedeljkovic</i>
Neresian, Peter	ARRPAC/Sen. Joyce	pnerses@softhome.net	
O'Malley, Thomas	ARRPAC/Citizen	tio'malleyre@aol.com	<i>[Signature]</i>
Reiskind, Michael	ARRPAC/Citizen	jpmichael@rcn.com	<i>[Signature]</i>
Rogers, Alison	City of Boston, Mayor's Office		✓
Saks, Adrien	ARRPAC/Rep. Rushing	None <i>asaks@panthers.org</i>	✓
Salimbene, Franklyn	ARRPAC/Citizen	fsalimbene@aol.com	<i>[Signature]</i>
Santay, Michael	City of Boston, BPD		
Schell, Andrew	ARRPAC/Citizen	None	✓
Silverstein, Joy	ARRPAC/Citizen	freshhair@aol.com	✓
Southwick, Merlin	ARRPAC/Citizen	mgsouthwick@attbi.com	✓
Spinetto, Stephen	City of Boston, Commission for Persons with Disabilities		
Sullivan, Sean	ARRPAC/Rep. Smizik	arborway@bluebrook.com	<i>[Signature]</i>
Van Zandt, Kenneth	ARRPAC/BPD	Vanzandt1.bpd@ci.boston.ma.us	✓
Wepsic, Karen	ARRPAC/Citizen	Karen_wepsic@bms.harvard.edu	✓
Zirilli, Sam <i>Michael</i>	ARRPAC/Citizen	None	<i>[Signature]</i>
Zoulalian, George	ARRPAC/Sen. Wilkerson	Geopz99@aol.com	✓
Carrier, Douglas	PRO-Transit resident	doug.carrier@iesg.com	✓
MACONEY, FRED		20 MONTFERN AVE BRIGHTON	✓
<i>Claudia Lauer</i>	JP Bulletin	tpz info@bulletinnewspapers.com	✓
<i>Andrew Brennan</i>	MBTA		✓
<i>FABIANA SCANLAN</i>	JP GAZETTE	newse@jamaicaplaingazette.com	✓
<i>LYDIA RIVERA</i>	(T)	LRIVERA@MBTA.COM	✓
<i>DIANE PIENZA</i>	JP	dianepienta@hotmail.com	✓
<i>D. O'DONAHUE</i>	JP Commuter	odonahue@lcs1.net	✓
<i>Krishne Wickham</i>	VHB	Kwickham@vhb.com	✓
<i>Mike McArdle</i>	VHB	mmcardle@vhb.com	
<i>Rich Carey</i>	VHB	rcarey@vhb.com	
<i>McDonough, Thomas</i>	City Councilor Murphy	thomas.mcdonough@ci.boston.ma.us	✓

ARRPAC MEETING

357-1



Vanasse Hangen Brustlin, Inc.

38 Chauncy Street, Suite 200
Boston, Massachusetts 02111
617 728-7777
FAX 617 728-7782

Meeting Notes

Attendees: See Attached Sign-In

Date/Time: 11/20/02 7:00 PM

Project No.: 08219.00

Place: State Lab, Jamaica Plain

Re: ARRPA Meeting #5

Notes taken by: Kristine Wickham

On November 20, 2002 at 7:00 PM, the regularly scheduled meeting with the ARRPA was held. A summary of the meetings major discussion points follows:

	DESCRIPTION	ACTION ITEM/ DECISION
5.1.0	The meeting opened with ten minutes of public comment:	
5.1.1	<input type="checkbox"/> Concerns of locating a station in the vicinity of the Purple Cactus were expressed. Areas such as access, visibility and safety were identified as concerns. It was expressed that three commercial loading spaces would be removed, making deliveries impossible. It was stated that Jamaica Plain must be allowed to thrive as a business community.	
5.1.2	<input type="checkbox"/> Concerns about EMS, Fire and Police access were expressed. It was noted that with the introduction of trolley service, there would be limited passing area for vehicles. Concern for people's safety was also expressed.	
5.1.3	<input type="checkbox"/> One resident noted that the restoration of trolley service has been mandated and that the project is moving forward. Therefore, it was suggested that no further discussion of other alternatives be held.	
5.1.4	<input type="checkbox"/> Requests for more public notices for future meetings were made.	
5.1.5	<input type="checkbox"/> It was noted that people in the community would like to know more information about the project. It was recommended that information be publicly distributed and that members of the ARRPA be available to respond to questions.	

	DESCRIPTION	ACTION ITEM/ DECISION
5.1.6	<input type="checkbox"/> It was noted that potential date of the public meeting, December 18th, would be difficult for business owners in the community to attend due to the holiday season. Barbara Boylan stated that more discussion on the public meeting would be held at the end of the meeting. Additionally, Ms. Boylan stated that if a public meeting were held in December, then the ARRPAAC meeting agendas would need to be revised either by pushing out the agenda or adding an extra meeting in January. Ms. Boylan will revise the ARRPAAC agendas if necessary.	MBTA to revise ARRPAAC agendas to accommodate December public meeting.
5.2.0	The meeting notes from the October 16, 2002/November 16, 2002 ARRPAAC meeting were discussed. Edits will be made to Items 4.1.1 and 4.31.0 and re-issued at the next ARRPAAC	Meeting minutes to be revised and distributed.
5.3.0	Barbara Boylan stated that large-scale drawings of the existing conditions and station locations have been put out in the community. Plans have been delivered to Fresh Hair and the Library, and will be put in a flyer into the next issue of the JP Gazette. It was asked whether the drawings were delivered to the Sedgewick or Conley library. Ms. Boylan will verify and make sure delivered to both.	MBTA to verify that both libraries have set of plans
5.4.0	The potential station locations identified at the last meeting were reviewed. A discussion was held regarding the fact that only one station at Child Street would be located on the section of South Street between the Monument and Forest Hills. It was noted that the other segments have more stations in closer proximity. It was requested that the committee reconsider the number of stations along South Street.	
5.5.0	It was generally agreed that rather than revisit the discussions of previous meetings, that the ARRPAAC go forward with the current proposal and present the locations to the public for feedback.	ARRPAAC to present proposed station locations to community at public meeting.
5.6.0	ARRPAAC members noted that although that the work that has been done thus far is valid, they agree that there is an inconsistency on South Street. Members of the ARRPAAC stated that they would like the public to know that they are available to discuss questions or issues with the project.	
5.7.0	It was noted that if Heath Street Station were eliminated, then the total number of stations and spacing would change.	
5.8.0	The intersection and pedestrian access at Forest Hills was recommended for improvements.	
5.9.0	Don Cooke, VHB, distributed and reviewed the existing conditions traffic study. Several questions or clarifications related to the traffic study included:	
5.9.1	<input type="checkbox"/> It was noted that the work presented here does not limit the possibility to do additional work or expand the traffic study area, if required.	

	DESCRIPTION	ACTION ITEM/ DECISION
5.9.2	<ul style="list-style-type: none"> □ Vineet Gupta, City of Boston, noted that this was the City's first time seeing the traffic report. He stated that this report will need to be reviewed and will need to meet BTM standards. Additionally, Mr. Gupta stated that additional intersections off of the corridor will be required for further study. 	
5.9.3	<ul style="list-style-type: none"> □ The City was asked to share their scope of work for the City's requirements with the committee. Mr. Gupta said that he would send the scope to the ARRPA members. 	City of Boston to share scope of work with ARRPA.
5.9.4	<ul style="list-style-type: none"> □ It was explained that the Arborway intersection at Washington Street is included as part of the study. 	
5.9.5	<ul style="list-style-type: none"> □ It was explained that the traffic data at the Arborway intersection at South Street is currently being performed and will be added to the final report. 	
5.9.6	<ul style="list-style-type: none"> □ Ralph DeNisco, City of Boston, suggested performing ADT (average daily traffic) counts on weekends. 	
5.9.7	<ul style="list-style-type: none"> □ It was recommended that turning movements at Seaverns Street between Starr Lane and St. John be evaluated. 	
5.9.8	<ul style="list-style-type: none"> □ Don Cooke explained that not all intersections on the corridor were analyzed. Rather 15 signalized intersections were reviewed. Mr. Cooke also stated that other intersections, including some unsignalized intersections may need to be added to the study. 	
5.9.9	<ul style="list-style-type: none"> □ Ed Hesford, City of Boston, expressed concern because the study does not evaluate a network for the area and does not evaluate feeders into the area. 	
5.9.10	<ul style="list-style-type: none"> □ It was noted that Spring Park is a major intersection that should be evaluated. 	
5.9.11	<ul style="list-style-type: none"> □ Accident data was reviewed. It was explained that data is generally broken down into pedestrians, vehicles or bike accidents. However, it may be possible to analyze to differentiate between cars, trucks, or buses, if detailed information is available. 	
5.9.12	<ul style="list-style-type: none"> □ Parking turnover data was reviewed. It was requested that a breakdown of commercial or residential be provided. Don Cooke stated that he can compile the turnover for a 12-hour period. 	Don Cooke to compile turnover data for residential/commercial spaces.
5.9.13	<ul style="list-style-type: none"> □ It was noted that there are a number of illegally parked vehicles along the corridor. It was suggested that when designing stops that illegal parking spaces should also be considered. Loading spaces should also be accommodated. It was asked if double-parking of trucks for loading was taken into consideration. It was explained that they were not. 	

	DESCRIPTION	ACTION ITEM/ DECISION
5.9.14	<input type="checkbox"/> More detailed information regarding the loss of parking spaces, and replacement with off-street or supplemental parking, was requested. Barbara Boylan explained that this is the start of the design process and that parking will be evaluated in detail as the design progresses.	
5.9.15	<input type="checkbox"/> Franklyn Salembene stated that the City has had traffic problems along this corridor in the past and nothing has been done to correct it. Only now, as part of the trolley restoration, are the problems that currently exist being addressed. Mr. Salembene noted that because of this project, this will be a better operating corridor for vehicles.	
5.9.16	<input type="checkbox"/> The Level of Service (LOS) B at Green Street was questioned. It was suggested that this may be incorrect.	VHB to review Green Street analysis.
5.9.17	<input type="checkbox"/> Eliot Street was suggested for an unsignalized analysis.	
5.9.18	<input type="checkbox"/> Don Cooke concluded the traffic presentation by stating that a simulation will be developed to model future conditions with the light rail service.	
5.10.0	Bob MacDonald, HNTB, reviewed the operational assumptions for the trolley service. Several questions or clarifications related to the traffic study included:	
5.10.1	<input type="checkbox"/> Members of the ARRPAC questioned the pre-1986, 25-minute run time from Heath Street to Copley.	HNTB to review run times and clarify for committee.
5.10.2	<input type="checkbox"/> PCC stands for Presidential Conference Car.	
5.10.3	<input type="checkbox"/> It was explained that the level of service, or headways, of the trolleys will be designed to meet the need for capacity. Service headways will be determined at a future time.	
5.10.4	<input type="checkbox"/> Concerns were expressed that other branches of the Green Line will get better service than this section. It was stated that Jamaica Plain wants to be treated equally and receive equal service.	
5.10.5	<input type="checkbox"/> It was suggested that the headways be based on capacity for the entire line. It was suggested that the same criteria used for Riverside service be used for this design.	
5.10.6	<input type="checkbox"/> It was questioned if trolleys would be turning at Heath Street. Bob MacDonald stated that this is one of the operational decisions that the MBTA will assess as part of this project.	

	DESCRIPTION	ACTION ITEM/ DECISION
5.10.7	<input type="checkbox"/> It was requested that the fare structure for Arborway Service be evaluated. Barbara Boylan will investigate, and will discuss at future meetings.	Barbara Boylan to investigate for fare structure for Arborway Service and discuss at future meetings.
5.10.8	<input type="checkbox"/> It was stated that ridership on the E line hasn't grown because of capacity limitations. Brian Dwyer, MBTA, stated that more service was added on the line in September of 2001.	
5.10.9	<input type="checkbox"/> Dwell times at the station will be evaluated in the future. Brian Dwyer stated that the pre-paid area pilot program for fare collection is going well to date. It is too soon to see the overall impacts, but in general the dwell times at stations are good.	
5.10.10	<input type="checkbox"/> Impacts on the entire Green Line will need to be evaluated, as well as future programs such as changes at Lechmere and/or extension of service to Medford.	
5.10.11	<input type="checkbox"/> The number of cars needed for the service will be determined in the future.	
5.11.0	Members of the ARRPAC asked when coordination with the City and police would happen. Additionally, it was asked when the City would provide the technology and enforcement for the area. Mike McArdle, VHB, stated that coordination meetings with the City would occur after Thanksgiving.	
5.12.0	A statement was read from Ch. 161, Sec. 3, Page 21, of the Massachusetts General Laws summarizing that the Authority of the Board is exclusive and that the MBTA will have the final decisions as to the character and extent of services provided by this system. Other members of the committee stated that because this is a public way, the City will have the final decision-making powers. Mike McArdle stated that both the MBTA and the City will need constant and continual cooperation.	
5.13.0	The need for a new power substation was questioned. Members of the committee stated that the Orange Line was built with excess power capacity to address this. Bob MacDonald stated that in the past, voltages for the older vehicles were low. Additional assessment for the power requirements will be necessary for future conditions.	
5.14.0	The official meeting of the ARRPAC concluded at 9 PM. Barbara Boylan turned the meeting over to the ARRPAC to discuss the need for a public meeting on December 18 th in place of an official ARRPAC meeting.	

	DESCRIPTION	ACTION ITEM/ DECISION
5.15.0	<u>Post- ARRPAAC Meeting discussion –</u> The possibility of having a public meeting on December 18 th was discussed. Some members of the committee felt that this would be a bad time for people to make the meeting. Others felt that this meeting should not be postponed and that feedback from the community was necessary. After much discussion, it was generally agreed that the public meeting would be held on December 18 th . A pre-meeting with ARRPAAC only will be held on December 4 th .	
5.16.0	The next meeting will be a public meeting and will be held on December 18, 2002 at 7PM. Location to be determined.	

Attachments

- ☐ Sign-In Sheet

MBTA Arborway Restoration Project

ARRPAC MEETING

Attendance Register

November 20, 2002

7:00 PM – 9:00 PM

* Please update or add information, if necessary

Name:	Affiliation	Email Address:	✓ if in Attendance
Baron, David	ARRPAC/Citizen	dbaron@mindspring.com	✓ DB
Blackington, Neil	ARRPAC/EMS	blackington@bostonems.org	MPB ✓
Boylan, Barbara	ARRPAC/MBTA	bboylan@MBTA.com	
Brown, Mira	ARRPAC/Citizen	mira@bikesnotbombs.com	
Calcaterra, Peter	ARRPAC/MBTA	pcalcaterra@mbta.com	✓ ACQ
Carney, Terry	ARRPAC/Citizen	None	✓
Clark, Arva	ARRPAC/Citizen	arvaclark@earthlink.net	✓ ajs
Davis, Tom	ARRPAC/Citizen	tomd@tcbinc.org	
DeBeau, Catherine, Dr.	ARRPAC/Citizen	cdubeau@caregroup.harvard.edu	
DeNisco, Ralph	City of Boston, BTB	Ralph.denisco@ci.boston.ma.us	
Demos, Kosta	ARRPAC/CCTobin	kostademos@earthlink.net	
Doherty, Karen Caplan	ARRPAC/Citizen	caplandoherty@aol.com	
Doherty, Nancy	ARRPAC/Rep. Malia	Zncd2@yahoo.com Nancy, Doherty @CITIZEN.NET	ND
Dwyer, Brian	ARRPAC/MBTA	bdwyer@mbta.com	
Elder, Rosalyn	ARRPAC/Citizen	Fax number: 617-327-6898 983-3222	✓
Fargen, David	ARRPAC/CCRoss	dayfar@earthlink.net	
Ferris, Jeffrey	ARRPAC/Citizen	jferris@theworld.com	✓
Fixler, Elizabeth	ARRPAC/Citizen	None	
Garr, Andrea	ARRPAC/Friends of Copley Sq.	Copleysq@aol.com	
Gupta, Vineet	ARRPAC/BTD	Vineet.gupta@cityofboston.gov	
Jayasinghe, Para	City of Boston, Pubic Works		
Krasner, Richard	ARRPAC/Citizen	rkrasner@harvestcoop.com	
Kyper, John	ARRPAC/Citizen	jkyper@gis.net	
Lieberman, William	Consultant to the MBTA	None	
Maxfield, John	ARRPAC/Mayor's Office	Maxfield_co@msn.com	
Mejia, Marta	ARRPAC/Citizen	martamejiac@hotmail.com	
Miele, Theresa	ARRPAC/Citizen	None	

MBTA Arborway Restoration Project

ARRPAC MEETING

Name:	Affiliation	Email Address:	✓ if in Attendance
Mochen, Kevin	ARRPAC/BFD	Kevinm.bfd@ci.boston.ma.us	
Moloney, Kevin	ARRPAC/CCHennigan	mooneys@mindspring.com	✓
Nedeljkovic, Srdjan	ARRPAC/Citizen	srdjan@zeus.bwh.harvard.edu	✓
Neresian, Peter	ARRPAC/Sen. Joyce	pnerses@softhome.net	✓
O'Malley, Thomas	ARRPAC/Citizen	tjo'malleyre@aol.com	✓
Reiskind, Michael	ARRPAC/Citizen	jpmichael@rcn.com	✓
Rogers, Alison	City of Boston, Mayor's Office	None	
Saks, Adrien	ARRPAC/Rep. Rushing	asaks@partners.org	
Salimbene, Franklyn	ARRPAC/Citizen	fsalimbene@aol.com	✓ FPSal
Santay, Michael	City of Boston, BPD	None	
Schell, Andrew	ARRPAC/Citizen	None	✓ ACS
Silverstein, Joy	ARRPAC/Citizen	freshhair@aol.com freshhairsalon@aol.com	✓
Southwick, Merlin	ARRPAC/Citizen	mgsouthwick@attbi.com	✓
Spinetto, Stephen	City of Boston, Commission for Persons with Disabilities	None	
Sullivan, Sean	ARRPAC/Rep. Smizik	arborway@bluebrook.com	✓
Van Zandt, Kenneth	ARRPAC/BPD	Vanzandt1.bpd@ci.boston.ma.us	
Wepsic, Karen	ARRPAC/Citizen	Karen_wepsic@bwh.harvard.edu	hms.harvard.edu
Zirilli, Michael	ARRPAC/Citizen	None	✓
Zoulalian, George	ARRPAC/Sen. Wilkerson	Geopz99@aol.com	✓
Tobias Johnson	Resident	TJohnson@axiotek.ca	✓
Jon Inglis		jgtrns@aol.com	✓
Mario O'Shea	Purple Cactus	upcbs@yahoo.com	✓
Anka Therav	Purple Cactus	WardicAPR@yahoo.com	✓
FABIANA SCANIAN	GAZETTE	news@jamaicaplaingazette.com	✓
WERMIEL, Sara	resident	fireproof2@att.net	✓
Robyn Michewick, Robyn	Resident/BUDGETS		✓
Claudia Lauer	JP Bulletin	clauer@bulletinnewspress.com	✓
Larry Cronke	JP Neighborhood Council	lcronke1@attbi.com	✓
Edward HCSFors	City of Boston-BTD	edward.hcsfors@ci.boston.ma.us	
Deborah Galiga			
K. Wickham	VHB	K.Wickham@vhs.com	✓

ARRPAC MEETING

357-1



Vanasse Hangen Brustlin, Inc.

38 Chauncy Street, Suite 200
Boston, Massachusetts 02111
617 728-7777
FAX 617 728-7782

Meeting Notes

Attendees: See Attached Sign-In

Date/Time: December 18, 2002

Project No: 08219

Place: Agassiz School
Jamaica Plain

Re: Arborway Streetcar Restoration Project
ARRPAC Meeting #6 – Public Meeting

Notes taken by: Michael McArdle/Rick Carey

On December 18, 2002 at 7:00 PM, a public ARRPAC meeting was held. A summary of the meeting's major discussion points follows. The schematic design plans showing existing parking and proposed station locations were displayed at various locations throughout the auditorium.

	Description	Action Item/ Decision
6.1.0	Tom O'Malley opened the meeting by stating the purpose of the public meeting and summarizing the project.	
6.1.1	He explained that the Trolley service will replace the #39 bus, but will not replace the Jamaica Plain Loop or the #41 bus.	
6.1.2	He described what ARRPAC is, how it was formed, and what purpose it serves.	
6.1.3	He explained the process of the forming the ARRPAC committee, and who made up the Committee – 23 appointed community members, 8 political appointees, and 6 technical representatives for the city.	
6.1.4	Next the ARRPAC committee introduced themselves.	
6.1.5	Tom O'Malley explained the importance of the ARRPAC meetings, and also the importance of conveying the decisions made at those meetings to the public, by means of the public meetings and the inserts that were in the JP Gazette.	

6.1.6	Tom explained the mission of the ARRPAC is to assist the MBTA and its consultants in the design and operational planning for the resumption of Streetcar Service through Jamaica Plain to the Arborway Terminal. The principal guideline is to make the restoration of Streetcar Service a reality based on the DEP mandate to restore trolley service.	
6.1.7	The ARRPAC Ground Rules were explained: The responsibility of ARRPAC members is to want to learn in depth about the issues that affect the project, to disseminate that information to the larger Jamaica Plain community, and to advise the MBTA and other public agencies responsible for implementation.	
6.1.8	Bill Lieberman was introduced to address the community and explain his technical role in the project.	
6.1.9	Bill gave a brief history of the line and a background of the project. The proposed route was explained, along with the fact that there will be a net vehicle reduction.	
6.1.10	Bill explained the station platform designs including curbside and bulbout station options.	
6.1.11	Tom focused the presentation on station location and design. The committee explained what type of station design will be used and how stops will operate.	
6.1.12	Trolley type and design was also explained.	
6.1.13	Also, Tom stressed that the proposed Arborway trolley yard will not be the repair facility for the new trolleys.	

6.1.14	<p>The Stations were presented by various ARRPA members in the following order:</p> <ul style="list-style-type: none"> • VA Station • Bynner Street Station • Perkins Street Station • Moraine Street/Boylston Street Station • Beaufort Road Station • Green Street/Myrtle Street JP Center Station • Eliot Street (Monument) Station • Child Street Station • Forest Hills Station (existing) 	
6.2.1	The comment/question period for the public was organized by each station.	
6.2.2	A member of the audience voiced her concern that this is a done deal and the people who are opposed to the project are not being heard.	Mr. O'Malley explained that the state and federal government made decisions regarding this project as part of the planning process for the implementation of the Central Artery and was a DEP mandate. He also explained that the ARRPA meeting is not the forum to discuss whether the project should be implemented or not, but rather a means to communicate to the public what is going on with the project.
6.2.3	Heath Street removal and construction – a lot of Mission Hill residents use Heath Street & Back of the Hill is not ADA – there was concern with outbound trolley not going through to Forest Hills	
6.2.4	A member of the audience voiced her concern on bicycle safety issues related to the installation of tracks.	There was some discussion from Mr. O'Malley, Mr. Lieberman and Jeffrey Ferris concerning bicycle related issues. These issues will be reviewed and considered as the design develops.
6.2.5	A member of the audience asked if center platforms are being considered	Mr. O'Malley and Mr. Lieberman stated that center platforms are possible only on South Huntington Avenue given the wider roadway. However, fare collection is an issue since the center platform would have passengers loading on the left side of the trolley in the outbound direction.

6.2.6	A member of the audience asked why the proposed Bynner Street Station has inbound and outbound platforms opposite each other when it was stated earlier that this was not desirable.	Since South Huntington Avenue is a wider roadway, it is feasible to place the platforms opposite each other.
6.2.7	A member of the audience felt that there are vehicular traffic issues at the Perkins Street intersection and the proposed station may be an issue.	It was stated that the traffic analysis is ongoing and will focus on signalized intersections like Perkins Street. Proposed modifications to the intersections will be recommended after the analysis is complete and coordinated with the City.
6.2.8	Dr. Srdjan Nedeljkovic of the ARRPAAC stated that he feels an additional station should be proposed at St. Rose Street based on the spacing of surrounding stations (Center Street and existing Forest Hills Station).	Mr. O'Malley stated that the ARRPAAC had agreed to the number of stations proposed as shown and that this public meeting should not be the forum to try to amend the ARRPAAC's consensus on the stations.
6.2.9	Another member of the audience stated their disappointment that this was not a forum to discuss concerns on the project. The discussion continued from other members of the audience who were opposed to the project on concerns with emergency vehicle response, safety, traffic, parking, deliveries, etc.	Tom reminded the audience of the the Central Artery mitigation and DEP mandate and the ARRPAAC's role in the implementation of the project. He stated that if people are against the project, they could organize, contact elected officials, and DEP, etc to voice their opposition, but that this public meeting was to convey the progress of design and solicit input on the station layout.
6.2.10	A member of the audience stated that they have a petition with over 600 signatures stating their opposition to the project due to concerns with emergency vehicle response times and safety.	A member of the audience who was a retired MBTA trolley operator responded by stating that during his time of operating trolleys, there was never a problem with the response time for emergency vehicles. He felt that this was not an issue.
6.2.11	The meeting was closed and the stated that there will be future regular meetings with the ARRPAAC and additional public meetings to discuss the project.	

MBTA Arborway Restoration Project

PUBLIC MEETING

Attendance Register

December 18, 2002

7:00 PM – 9:00 PM

ARRPAC MEMBERS

Name:	Affiliation	Email Address:	✓ if in Attendance
Baron, David	ARRPAC/Citizen	dbaron@mindspring.com	✓
Blackington, Neil	ARRPAC/EMS	blackington@bostonems.org	MPB
Boylan, Barbara	ARRPAC/MBTA	bboylan@MBTA.com	BJB
Brown, Mira	ARRPAC/Citizen	mira@bikesnotbombs.com	
Calcaterra, Peter	ARRPAC/MBTA	pccalcaterra@mbta.com	✓
Carney, Terry	ARRPAC/Citizen	None	
Clark, Arva	ARRPAC/Citizen	arvaclark@earthlink.net	Arva ✓
Davis, Tom	ARRPAC/Citizen	tomd@tcbinc.org	✓
DeBeau, Catherine, Dr.	ARRPAC/Citizen	cdubeau@caregroup.harvard.edu	
DeNisco, Ralph	City of Boston, BTB	Ralph.denisco@ci.boston.ma.us	✓
Demos, Kosta	AARPAC/CCTobin	kostademos@earthlink.com	✓
Doherty, Karen Caplan	ARRPAC/Citizen	caplandoherty@aol.com	✓ KCD
Doherty, Nancy	ARRPAC/Rep. Malia	Zncd2@yahoo.com	✓
Dwyer, Brian	ARRPAC/MBTA	bdwyer@mbta.com	
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Fixler, Elizabeth	ARRPAC/Citizen	None	✓
Garr, Andrea	ARRPAC/Friends of Copley Sq.	Copleysq@aol.com	
Gupta, Vineet	ARRPAC/BTD	Vineet.gupta@cityofboston.gov	✓
Jayasinghe, Para	City of Boston, Pubic Works		
Krasner, Richard	ARRPAC/Citizen	rkrasner@harvestcoop.com	
Kyper, John	ARRPAC/Citizen	jkyper@gis.net	✓
Lieberman, William	Consultant to the MBTA	None	
Maxfield, John	ARRPAC/Mayor's Office	Maxfield_co@msn.com	✓

MBTA Arborway Restoration Project

PUBLIC MEETING

Name:	Affiliation	Email Address:	✓ if in Attendance
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Miele, Theresa	ARRPAC/Citizen	None	
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Nedeljkovic, Srdjan	ARRPAC/Citizen	srdjan@zeus.bwh.harvard.edu	<i>Srdjan Nedeljkovic</i>
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Santay, Michael	City of Boston, BPD	None	
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Zirilli, Michael	ARRPAC/Citizen	None	<i>✓</i>
Zoulalian, George	ARRPAC/Sen. Wilkerson	Geopz99@aol.com	

MBTA Arborway Restoration Project

PUBLIC MEETING

Attendance Register

December 18, 2002

7:00 PM - 9:00 PM

Name:	Address:	Email Address:
MARK T. SMITH	545 CENTRE STREET #401 J.P.	N/A
Gallen Small	545 Centre St Apt 401 J.P.	N/A
Eleanor Gallantini	545 Centre #614	N/A
FRANK DeMASI	26 MACARTHUR RD, WELLESLEY MA	fsdemasi@earthlink.net
MARK MacConnell	33A Pond St Jamaica Plain	N/A
CAROLYN MASON	19 CATAMET ST - JP	#/
EDWINA S. CLOHERTY	56 PETER PARLEY RD, J.P. 02130	—
Elizabeth Galloway	32 ST. ROSE ST JP 02130	—
JOHN CIPOLLA	46 ST JOHN ST JP.	jwc@neu.edu
LAWRENCE REVERDE	28 ROSEMARY ST. JP 02130	N/A
Margaret Renfro	28 Rosemary St JP 02130	N/A
Elizabeth Poirier	52 Hampstead RD JP 0213A	
Karen Wepsic	84 Prince St. J.P. 02130	karen_wepsic@hms.harvard.edu
Jerry L'Amey	27 Burroughs St J.P.	
Prof. D. M. O'Malley	79 Boylston St J.P.	—
Para Jayasinghe	PWD City of Boston	—
Rakent Taylor	16 Wendell St, B And St CIV ASS.	
David White	JP City for Cleaning 24 Green St	
BEN PATIENCE	4 Peter Parley RD J.P. 02130	benjamin.patience@notus.cc
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Steve Pataak	58 Orchard St, JP	mechefp@hotmail.com
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Ann McGinn	51 Sedgwick St 02130	
Martin Tannerbaum	2 Maple Place, JP 02130	MHTANNEN@AOL.com

MBTA Arborway Restoration Project

PUBLIC MEETING

Name:	Address:	Email Address:
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David Elliott	50 Burroughs St	Dave@TaylorHouse.com
Claydon Jann	35 Cranston St	Claydon@BellNetNews.com
Alan Smith	29 Greenough Ave.	aesmith@bu.edu
Britt Smith	9 Bishop St J.P.	brittainsmith@klocity.com
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T Johnson	23 Gay Head St Boston 02130	TJohnson@xinet.com
Annie Jolie - Rep. Liz Hall's office	State House #310 Boston 02133	Annie.Jolie@non.state.ma.us
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Ed Koun	8 Drexel St JP 02130	
FRED MACQUEY	20 MONTEFORD AVE BRIMATON 02135	617-782-4445
John Hvalson	9 Surrey Hill JP 02130	617-522-1017
Dave O'Donoghue	40 Greenough Ave JP 02130	617-723-5664
Karl Smith	279 Parker Hill Ave 02120	
Harrie Schwarzschn	12 Parton Rd JP 02130	617-24-0986
Bonnie Norton	21 Thomas St JP	617-524-4647
Kosta Demos	60 Yale Terrace	522-8103
Julie Jette	550 Centre St. #5	jettejulie@yahoo.com
JOANN FITZPATRICK	25 LAKEVILLE	
Lita Booth	42A So Huntington Ave	617-522 6531
Paul Faircloth	3 St John St JP	PRFL@Aol.com
David Carey	45 High St. Boston	DCarey@MBTA.com
Liz Regan & Lisa Howe	26 Beaufort Rd. #3	lcaregan.e.c@b.com
Lise Koch & David Rehrich	18 Arborway	david@arborway.net
Alan Benvenfed	263 Union Ave JP	
GEORGE LEAKE	26 BARNWELL JP	
Jon Trislow	11 Belmore Terr. JP	jatrus@AOL.com
Mary Swonger	22 Holbrook JP	

PUBLIC MEETING

775-1

MBTA Arborway Restoration Project

PUBLIC MEETING

MBTA Arborway Restoration Project

PUBLIC MEETING

[illegible]



Vanasse Hangen Brustlin, Inc.

38 Chauncy Street, Suite 200
Boston, Massachusetts 02111
617 728-7777
FAX 617 728-7782

Meeting Notes

Attendees: See Attached Sign-In

Date/Time: 1/15/03 7:00 PM

Project No.: 08219.00

Place: State Lab, Jamaica Plain

Re: ARRPA Meeting #7 – Revised*

Notes taken by: Kristine Wickham

**These meeting minutes have been modified to reflect input from the ARRPA.*

On January 15, 2003 at 7:00 PM, the regularly scheduled meeting with the ARRPA was held. A summary of the meeting's major discussion points follows:

	DESCRIPTION	ACTION ITEM/ DECISION
7.1.0	The meeting opened with ten minutes of public comment:	
7.1.1	<input type="checkbox"/> Comments were made on the City's letter that was distributed at the 12/18/02 public meeting. A resident, and former employee of the City, requested that the City take responsibility for items, such as potholes and parking, along the corridor that are not the MBTA's responsibility. It was also stated that emergency vehicles have been addressed in the MBTA's previous studies, and recommended that the ARRPA members use this information, as well as the fire department operations plan, for their work.	
7.1.2	<input type="checkbox"/> It was stated that the discussion at the last public meeting was not satisfactory and was not completed. Suggestions were made to have an additional public meeting in January. Additionally, it was suggested that the MBTA and consultants run the next meeting, rather the ARRPA members.	
7.1.3	<input type="checkbox"/> One resident stated that they had articles dating back to 1975 on the project, and that they were happy to see progress on the project.	
7.1.4	Meeting minutes for the 12/18/02 Public Meeting (ARRPA #6) were distributed. Barbara Boylan stated that meeting minutes would be reviewed at the next ARRPA meeting.	Review meeting minutes with ARRPA at next meeting.

	DESCRIPTION	ACTION ITEM/ DECISION
7.2.0	The ARRPAAC was requested to provide a recap of their thoughts on the 12/18/02 Public Meeting. Comments are as follows:	
7.2.1	<input type="checkbox"/> It was felt by some that there was not an opportunity for those opposed to the project to speak. Others on the ARRPAAC stated that the intention of the public meeting was to discuss the station locations, not the merits of the project. It was explained that in the next steps of the project, the filing of the ENF, there will be a 20-day public comment period and a public meeting. This will be a period in which the public will be allowed to comment on the project. All substantial comments will be responded to as part of this process. The ENF will likely be filed by the end of February/middle of March, and a public meeting will be held at that time.	
7.2.2	<input type="checkbox"/> <i>It was asked if the ENF would end the 15% process. It was explained that the Schematic Design Report will end the 15% design process. Mike McArdle stated that the Schematic Design Report will be shared with the ARRPAAC prior to sharing it with the public.</i>	
7.2.3	<input type="checkbox"/> Other ARRPAAC members felt that there should be another public meeting to (1) address the issue of the possibility of a stop at St. Rose, (2) discuss the project design process, and (3) allow public comment on whether or not restoration should happen.	
7.2.4	<input type="checkbox"/> It was generally agreed that another public meeting would be held in January. Barbara Boylan said she would make an effort to flyer the buses, neighborhood and businesses to announce it.	Prepare for and conduct a continuation of the public meeting in January.
7.2.5	<input type="checkbox"/> It was asked at what other stages public meetings would be held. Barbara Boylan stated the public meetings will take place at each major stage of design (i.e. 30%, 60%, 90%, 100%), as well as during the ENF process.	
7.2.6	<input type="checkbox"/> It was agreed that Monday, 2/3/03 would be the night to hold a second public meeting from 7 to 9 PM. Barbara Boylan to confirm that the Agassiz School is available. The purpose of the meeting is to have a continuation of the previous meeting and focus on a discussion of the proposed station stops. It was agreed that a brief summary of the station stop locations would be useful at the beginning of the meeting. It was also suggested that members of the ARRPAAC encourage those in the community to be familiar with the station stop locations. The purpose of this public meeting is to get feedback on the stop locations, not debate whether to restore trolley service or not.	MBTA to confirm location for public meeting.

	DESCRIPTION	ACTION ITEM/ DECISION
7.2.7	<ul style="list-style-type: none"> ❑ A planning meeting will be held with the MBTA and the ARRPAAC to discuss the format and prepare for the public meeting. 	ARRPAAC and MBTA to schedule planning meeting for public meeting.
7.2.8	<ul style="list-style-type: none"> ❑ A letter written by Frederick Maloney was distributed to the committee. 	
7.3.0	<p>Barbara Boylan reviewed the ARRPAAC ground rules again.</p> <ul style="list-style-type: none"> ❑ She noted that members of the committee may not actively work against the project as part of their work on the ARRPAAC committee. ❑ Members of the ARRPAAC discussed the rights that an individual has outside of the ARRPAAC to oppose the project. It was agreed that as long as the individual is not obstructionist at the ARRPAAC, then they should be allowed to remain on the committee. It was stated that the ARRPAAC should respect the opinions of others, and that the group is better by having these individuals on the committee. ❑ Additionally, if a member misses three or more consecutive meetings, they are no longer on the ARRPAAC unless they appeal to and are accepted by the ARRPAAC to remain on. ❑ Barbara Boylan suggested that members review the ground rules once again on their own. 	
7.4.0	Bob MacDonald, HNTB, presented a brief description of the need for a containerized power substation for the project. HNTB has reviewed other substation sources, but has identified that a new power source will be needed for this project.	
7.5.0	It was explained that the best location for a new substation would be in the Heath Street loop, and that the substation would be approximately 25' wide x 40' long x 14' high. It would be located aboveground and would consist of architectural elements. No mix-use of the power substation will be possible.	
7.6.0	Don Cooke, VHB, explained that a model is currently being developed for baseline traffic conditions utilizing the existing data that was presented in November.	
7.7.0	A demonstration of the proposed model for use in the traffic analysis for the Arborway project was presented. Don Cooke explained that the model, VISSIM, is a new software package for the Boston area. The package has more capabilities for the Project Team to assess the impacts of street-running streetcar service, than the SYNCHRO model (currently utilized by the City) does. The model provides data on traffic queuing, delays, etc.	
7.8.0	Ralph DeNisco, BTB, noted that although the City uses SYNCHRO, the VISSIM package may be able to better evaluate "higher-level thinking" related to streetcar running impacts. It was noted, however, that final design would also be done utilizing SYNCHRO to comply with the City's requirements.	

	DESCRIPTION	ACTION ITEM/ DECISION
7.9.0	It was explained that VHB has been working closely with the City to review the capabilities of the model. A meeting is scheduled for 1/21 to review the baseline model with the City.	
7.9.1	Once the City approves the model, VHB will proceed with building the proposed conditions and assessing the impacts of the service on traffic. VHB will present the model to the ARRPAC in February.	<i>VHB to present traffic model at a future ARRPAC meeting. Date to be determined.</i>
7.9.2	Features that the model can simulate are conditions when cars pass the trolleys, EMS and emergency vehicles, parking conditions, bicycles, pedestrians, incidents (such as accidents), bus routes, etc. The model can be used for construction staging as well.	
7.9.3	<i>It was explained that the traffic model is limited to the corridor at this time, but does also include the intersections at Arborway and at New Washington Street in the vicinity of Forest Hills. Although the model has the potential to be expanded, none of the City-requested intersections, such as the unsignalized intersections along the corridor, have been included at this time. If the model were to be expanded, it is capable of simulating origin/destination information to evaluate diversions and detours, etc. The City is currently in the process of preparing a letter to the MBTA listing the limits of the expanded corridor area. The MBTA is continuing to work with the City to work out the issues related to traffic.</i>	<i>MBTA to work with City to investigate traffic issues and traffic study limits.</i>
7.9.4	It was explained that the Project Team is meeting with CTPS in the near future to discuss the ridership estimates and headway information. Once ridership estimates are developed, it would be possible to incorporate this information into the traffic model. A member of the committee stated that the ridership figures may have been underestimated in the MBTA's previous reports.	<i>VHB to meet with CTPS to discuss development of model for ridership estimates.</i>
7.9.5	It was noted that coordination of snow removal and of loading zones would be required as the design progresses.	
7.9.6	It was asked if a reduction in automobile traffic would be evaluated in the model as a result of ridership. Don Cooke explained that the model will use the existing conditions information and project growth for the future. It may be possible to accommodate for reduction in vehicles, if it is found to be a result as part of the initiation of trolley service.	
7.9.7	It was explained that a meeting would need to be held with the EMS, Fire and Police departments to discuss existing patterns for response and to look for areas for improvement. It was suggested that departments share their response plans that they had in the 80's when the streetcars were in service.	<i>VHB to schedule meeting with EMS, Fire and Police.</i>
7.9.8	Franklyn Salimbene requested a comparative analysis between the bus service and the trolley service. Mike McArdle explained that the existing condition, which is the bus service, will be used as the baseline and will be compared to the proposed service with streetcars.	

	DESCRIPTION	ACTION ITEM/ DECISION
7.9.9	Peter Calcaterra, MBTA, stated that CTPS has upgraded their ridership model since their previous work and that zoning and land-use information has changed. He noted that calibration is a critical part of any model and that calibrating the model should be done.	
7.9.10	It was requested that the ARRPAC have a technical working group to discuss and review the findings of the traffic existing conditions analysis. It was suggested that this take place during the day at lunchtime.	ARRPAC and MBTA to schedule technical work group for traffic analysis.
7.9.11	Mike McArdle explained that the Project Team would meet with DPW in the near future to begin discussions of areas such as snow removal and street maintenance. Individuals from the City and the MBTA Operations department will participate. Requests were made that snow removal and its impacts on parking and on businesses and sidewalks be evaluated.	
7.9.12	Dates for the upcoming meetings were discussed. The following is the conclusion of the discussion: <ul style="list-style-type: none"> <input type="checkbox"/> Continuation of Public Meeting -- Monday, 2/3/03; Agassiz School (location to be confirmed) <input type="checkbox"/> February ARRPAC Meeting -- Wednesday, 2/26/03; State Lab <input type="checkbox"/> Pre-Public Meeting Planning Session -- TBD <input type="checkbox"/> Traffic Technical Group -- TBD 	

Attachments

- ☐ Sign-In Sheet

MBTA Arborway Restoration Project

ARRPAC MEETING

Attendance Register

January 15, 2003

7:00 PM – 9:00 PM

* Please update or add information, if necessary

Name:	Affiliation	Email Address:	✓ if in Attendance
Baron, David	ARRPAC/Citizen	dbaron@mindspring.com	✓
Blackington, Neil	ARRPAC/EMS	blackington@bostonems.org	
Boylan, Barbara	ARRPAC/MBTA	bboylan@MBTA.com	✓
Brown, Mira	ARRPAC/Citizen	mira@bikesnotbombs.com	
Calcaterra, Peter	ARRPAC/MBTA	pccalcaterra@mbta.com	✓ <i>BBB</i>
Carney, Terry	ARRPAC/Citizen	None	
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DeNisco, Ralph	City of Boston, BTB	Ralph.denisco@ci.boston.ma.us	✓
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Doherty, Karen Caplan	ARRPAC/Citizen	caplandoherty@aol.com	✓ <i>DC</i>
Doherty, Nancy	ARRPAC/Rep. Malia	Zncd2@yahoo.com <i>Nancy Doherty 3@verizon.net</i>	✓ <i>ND</i>
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Elder, Rosalyn	ARRPAC/Citizen	Fax number: 617 427-8002	✓
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Mejia, Marta	ARRPAC/Citizen	martamejiac@hotmail.com	
Miele, Theresa	ARRPAC/Citizen	None	

MBTA Arborway Restoration Project

ARRPAC MEETING

Name:	Affiliation	Email Address:	✓ if in Attendance
Moechen, Kevin <i>Sgt. Michael Fish</i>	ARRPAC/BFD	Kevinm.bfd@ci.boston.ma.us	
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Reiskind, Michael	ARRPAC/Citizen	jpmichael@rcn.com	✓ R
Rogers, Alison	City of Boston, Mayor's Office	None Allison.Rogers@ci.boston.ma.us	✓
Saks, Adrien	ARRPAC/Rep. Rushing	asaks@partners.org	
Salimbene, Franklyn	ARRPAC/Citizen	fsalimbene@aol.com	✓
Santay, Michael	City of Boston, BPD	None TAGNWH@aol.com	✓
Schell, Andrew	ARRPAC/Citizen	None	
Silverstein, Joy	ARRPAC/Citizen	freshhair@aol.com freshhairsalon@aol.com	✓
Southwick, Merlin	ARRPAC/Citizen	mgsouthwick@attbi.com	✓
Spinetto, Stephen	City of Boston, Commission for Persons with Disabilities	None	
Sullivan, Sean	ARRPAC/Rep. Smizik	arborway@bluebrook.com	✓
Van Zandt, Kenneth	ARRPAC/BPD	Vanzandt1.bpd@ci.boston.ma.us	
Wepsic, Karen	ARRPAC/Citizen	Karen.wepsic@hms.harvard.edu	hms.harvard.edu
Zirilli, Michael	ARRPAC/Citizen	None	✓
Zoulalian, George	ARRPAC/Sen. Wilkerson	Geopz99@aol.com	✓
K. Wilkham	VHB	Kwilkham@vnb.com	✓
R. Carey	VHB	RCAREY@VHB.COM	✓
D. Carney	MBTA	Dcarney@MBTA.com	✓
VERY INCE	Citizen	bince@partners.org	✓
Anuradha Chaddah	Citizen	achaddah@partners.org	✓
Shairi Turner Davis	Citizen	shairi@turnerdavis.com	✓
Edwina Clorkey	Citizen		✓
Shairi Turner Davis	JP Citizen / homeowner	shairi@turnerdavis.com	✓
Jimmie Davis	JP Citizen	jimmie@turnerdavis.com	✓
Sgt Michael Fish	Boston Police Dist 13		✓
HART, CHRIS	ADAPTIVE ENVIRONMENT	CHART@ADAPTIVEENVIRONMENTS.ORG	✓
Carolyn Manson	Citizen	CALINDMAN@juno.com	✓

ARRPAC MEETING

357-1

MBTA Arborway Restoration Project

ARRPAC MEETING

Attendance Register

January 15, 2003

7:00 PM – 9:00 PM

* Please update or add information, if necessary

Name:	Affiliation	Email Address:	✓ if in Attendance
Baron, David	ARRPAC/Citizen	dbaron@mindspring.com	✓
Blackington, Neil	ARRPAC/EMS	blackington@bostonems.org	
Boylan, Barbara	ARRPAC/MBTA	bboylan@MBTA.com	✓
Brown, Mira	ARRPAC/Citizen	mira@bikesnotbombs.com	
Calcaterra, Peter	ARRPAC/MBTA	pccalcaterra@mbta.com	✓ PCC
Carney, Terry	ARRPAC/Citizen	None	
Clark, Arva	ARRPAC/Citizen	arvac Clark@earthlink.net	
Davis, Tom	ARRPAC/Citizen	tomd@tcbinc.org	✓ TMD
DeBeau, Catherine, Dr.	ARRPAC/Citizen	cdubeau@caregroup.harvard.edu	
DeNisco, Ralph	City of Boston, BTD	Ralph.denisco@ci.boston.ma.us	✓
Demos, Kosta	ARRPAC/CCTobin	kostademos@earthlink.com	✓
Doherty, Karen Caplan	ARRPAC/Citizen	caplandoherty@aol.com	✓
Doherty, Nancy	ARRPAC/Rep. Malia	Nancy Doherty 3@Verizon.net zncd2@yahoo.com	✓ ND
Dwyer, Brian	ARRPAC/MBTA	bdwyer@mbta.com	
Elder, Rosalyn	ARRPAC/Citizen	Fax number: 617 427-8002	✓
Fargen, David	ARRPAC/CCRoss	dayfar@earthlink.net	
Ferris, Jeffrey	ARRPAC/Citizen	jferris@theworld.com	✓
Fixler, Elizabeth	ARRPAC/Citizen	None	✓ EZ
Garr, Andrea	ARRPAC/Friends of Copley Sq.	Copleysq@aol.com	✓
Gupta, Vineet	ARRPAC/BTD	Vineet.gupta@cityofboston.gov	✓
Jayasinghe, Para	City of Boston, Pubic Works		✓
Krasner, Richard	ARRPAC/Citizen	rkrasner@harvestcoop.com	✓
Kyper, John	ARRPAC/Citizen	jkyper@gis.net	✓
Lieberman, William	Consultant to the MBTA	None	
Maxfield, John	ARRPAC/Mayor's Office	Maxfield_co@msn.com	✓
Mejia, Marta	ARRPAC/Citizen	martamejiac@hotmail.com	
Miele, Theresa	ARRPAC/Citizen	None	

MBTA Arborway Restoration Project

ARRPAC MEETING

Name:	Affiliation	Email Address:	✓ if in Attendance
Meehan, Kevin <i>retired</i>	ARRPAC/BFD	Kevinm.bfd@ci.boston.ma.us	
Moloney, Kevin	ARRPAC/CCHennignan	moloneys@mindspring.com	✓
Nedeljkovic, Srdjan	ARRPAC/Citizen	srđjan@zeus.bwh.harvard.edu	Srdj. Nedel
Neresian, Peter	ARRPAC/Sen. Joyce	pnerses@softhome.net	✓
O'Malley, Thomas	ARRPAC/Citizen	tjo'malleyre@aol.com	✓
Reiskind, Michael	ARRPAC/Citizen	jpmichael@rcn.com	✓
Rogers, Alison	City of Boston, Mayor's Office	None Allison.Rogers@ci.boston.ma.us	✓
Saks, Adrien	ARRPAC/Rep. Rushing	asaks@partners.org	
Salimbene, Franklyn	ARRPAC/Citizen	fsalimbene@aol.com	✓
Santay, Michael	City of Boston, BPD	None TAG NW H P aol.com	✓
Schell, Andrew	ARRPAC/Citizen	None	
Silverstein, Joy	ARRPAC/Citizen	freshhair@aol.com freshhairsalon@aol.com	✓
Southwick, Merlin	ARRPAC/Citizen	mgsouthwick@attbi.com	✓
Spinetto, Stephen	City of Boston, Commission for Persons with Disabilities	None	
Sullivan, Sean	ARRPAC/Rep. Smizik	arborway@bluebrook.com	✓
Van Zandt, Kenneth	ARRPAC/BPD	Vanzandt1.bpd@ci.boston.ma.us	
Wepsic, Karen	ARRPAC/Citizen	Karen_wepsic@bms.harvard.edu	hms.harvard.edu
Zirilli, Michael	ARRPAC/Citizen	None	✓
Zoulalian, George	ARRPAC/Sen. Wilkerson	Geopz99@aol.com	✓
K. Williams	VHB	Kwilliams@vhb.com	✓
R. Carey	VHB	RCAREY@VHB.COM	✓
D. Carey	MBTA	DCarey@MBTA.COM	✓
VERY INCE	Citizen	bince@partners.org	✓
Anuradha Chaddah	Citizen	achaddah@partners.org	✓
Shairi Turner Davis	Citizen	shairi@turnerdavis.com	✓
Edwina Cloherby	Citizen		✓
Shairi Turner Davis	JP Citizen / homeowner	shairi@turnerdavis.com	✓
Jimmie Davis	JP Citizen	jimmie@turnerdavis.com	✓
SGT MICHAEL FISHER	Boston Police Dist 13		✓
HART, CHRIS	ADAPTIVE ENVIRONMENTAL	CHART@ADAPTIVEENVIRONMENTS.ORG	✓
Carolyn Manson	Citizen	calindman@juno.com	✓

ARRPAC MEETING

[illegible]



Vanasse Hangen Brustlin, Inc.

38 Chauncy Street, Suite 200
Boston, Massachusetts 02111
617 728-7777
FAX 617 728-7782

Meeting Notes

Attendees: ARRPAAC Members
VHB Team
MBTA Team

Date/Time: February 3, 2003 7:00 p.m.

Project No.: 08219.00

Place: Agassiz School, Jamaica Plain

Re: ARRPAAC Public Meeting #2 (ARRPAAC #8) –
Revised *

Notes taken by: Kristine Wickham

**These meeting minutes have been modified to reflect input from the ARRPAAC.*

On February 3, 2003, the ARRPAAC committee held a second public meeting. The purpose of this meeting was to continue the December 18, 2002 public meeting and focus on the proposed station stops for the Arborway corridor. The following is a summary of this meeting:

	Description	Action Item/Decision
8.1	Barbara Boylan opened the meeting by re-stating the MBTA General Manager, Mike Mulhern's commitment to restore the Arborway corridor trolley service.	
8.2	Tom O'Malley described the agenda for the evening, explained the graphics and handouts, provided background information on the ARRPAAC committee and its members, gave a general overview of the station locations, and described the breakout sessions.	
8.3	The Breakout Sessions were separated into three groups with ARRPAAC members facilitating the sessions and recording the notes. The following are how the sessions were broken out by stations: <ul style="list-style-type: none"> ▪ VA Hospital/Bynner/Perkins/Triple D's – Sean Sullivan w/Kosta Demos ▪ Triple D's/Beaufort/JP Center/Monument – Michael Reiskind w/David Baron ▪ Monument/Child/Forest Hills – Peter Nersesian w/Karen Caplan Doherty 	
8.4	Once the breakout sessions were completed, the meeting was reconvened and Tom O'Malley explained that this portion of the meeting would be tape-recorded.	

	Description	Action Item/Decision
8.5	Tom O'Malley clarified the discussion of parking spaces lost as a result of the project. He noted that the ARRPAAC has requested that the MBTA mitigate the number of parking spaces lost. One method, which needs to be further investigated, is to possibly consolidate bus stops along the corridor.	
8.6	Tom O'Malley also noted that all new or rehabilitated station stops would be designed for handicapped accessibility, so that they are all ADA compliant.	
8.7	The ARRPAAC committee members then presented a recap of the comments from the breakout sessions.	
8.8	Sean Sullivan presented the findings from the South Huntington Avenue section breakout session. He noted that the discussion focused on the width of the street and how to make the trolley service as expeditious as possible.	
8.8.1	<p>Some of the topics of discussion on this segment included :</p> <ul style="list-style-type: none"> ▪ The infeasibility of using center platforms on the corridor ▪ Discussion of proof of payment and automatic fare collection ▪ The ability of cars being able to pass in the vicinity of Moraine Street ▪ A suggestion that a center bike lane be provided in between the tracks ▪ <i>General agreement that the Moraine Street, Perkins Street, and VA Hospital stop locations are good as presented</i> ▪ Discussion of emergency vehicles being able to pass ▪ Discussion of the operational issues at Heath Street such as short turning of trolleys at the loops and the platform at the Back of the Hill Station. 	
8.9	<p>David Baron presented the segment on Centre Street. The major elements of discussion on this segment included:</p> <ul style="list-style-type: none"> ▪ The traffic study should not be limited to the central corridor. It was recommended that the area be expanded. ▪ There were questions regarding whether there would be bus consolidation with new trolley stops. ▪ There were concerns that non-residents will drive into area and park to take trolley service. ▪ It was suggested that bus and trolley stops be combined and share shelters. 	

	Description	Action Item/Decision
	<ul style="list-style-type: none"> ▪ <i>It was explained that trolley stops would be only approximately two inches higher above the street than the present bus stops.</i> ▪ It was suggested that, due to loading issues, the Seaverns Street Stop be pulled back away from the Purple Cactus area and located in the vicinity of the Store 24 and Footlocker stores. ▪ Loading issues at Triple A Appliance should also be investigated. ▪ It was stated that, although not confirmed, headways would be in the range of six minutes. ▪ It was explained that dwell times at stations would be on average 30 seconds. 	
8.10	<p>The South Street section of the corridor was presented by Peter Nersesian, some topics of discussion included:</p> <ul style="list-style-type: none"> ▪ The Arborway Yard project needs to be coordinated with the MDC, and park areas in the vicinity need to be addressed. ▪ Passengers who are traveling in the outbound direction want to be allowed to travel back inbound through Forest Hills Station. ▪ The Forest Hills and South Street pedestrian crosswalk were discussed. With the location of the Forest Hills stop and the Child Street stop, this location should be more amenable to pedestrians. ▪ Construction impacts were discussed. At the session, Mike McArdle answered questions regarding the construction of the track area. It was explained that the track would be constructed in a progressive succession so that no piece of the street would be blocked for longer than necessary, and so the traffic could always flow around it. ▪ Parking and trash collection concerns were raised. ▪ At the Monument stop, concerns were expressed about the ability to load at Triple A Appliance. Rear access, side street access, and dedicated loading times will need to be discussed with business owners in the next phase of the project. ▪ It was agreed that Monument is the right location for a stop. ▪ An alternative stop location for the outbound platform considered may be to use the Monument island and extend the sidewalk area to accommodate a platform. 	
8.11	Once the recap of the breakouts was completed, the	

	Description	Action Item/Decision
	meeting was open to questions and comments. The following is a summary of the questions/comments:	
8.11.1	There was a question regarding the environmental process. Barbara Boylan explained that although DEP supports the restoration of the light rail service, an ENF (Environmental Notification Form) and an EIR (Environmental Impact Report) will need to be filed for this project. She also explained a more thorough discussion of the environmental process will take place at the February ARRPAC Meeting.	
8.11.2	A JP resident noted that they supported restoration of the trolley service, as it will get rid of 800 diesel buses. He also noted that JP has a high rate of asthma.	
8.11.3	Alan Smith stated that he supports trolley for several reasons. His concern is in the MBTA's financial priority of this project (medium, rather than high). He urged the MBTA to boost the priority of this project.	
8.11.4	Michael Reiskind commented on how buses will work with the trolleys in the corridor. He noted that there is a general consensus that they should share stops. Opportunities for consolidating stops with the 38/41/48 buses should be analyzed. Additionally, it was noted the Monument inbound stop will prohibit the 38 from terminating. One proposal was to move the stop ½ block closer to in front of Curtis Hall.	
8.11.5	A JP man thanked ARRPAC and the MBTA for a comprehensive look at the project and stated that the project was very important. His question was regarding if trolley priority would be in effect at all. It was explained that the project team is currently investigating the traffic elements of the corridor right now. It is assumed that there will be some type of trolley priority at every intersection to improve traffic flows.	
8.11.6	A JP homeowner and business owner stated that her primary concern is the economic health of the community. If the trolleys are looked at only from a JP perspective then they are overlooking the economic well being of JP. It was stated that many consumers come from Roslindale, W. Roxbury, and HydePark and the local business owners will not be able to survive without those customers. These consumers will not be taking the trolley or buses. They will be driving and net parking losses or improper signage for current lots is a major concern. Tom O'Malley stated that this is an important issue and that several individuals on the ARRPAC represent business interests.	
8.11.7	It was requested that the bus ridership for the Routes 38, 41, and 48 be shared with the ARRPAC.	Barbara Boylan will share information.

	Description	Action Item/Decision
	38, 41 and 48 be shared with the ARRPAC.	share information with the committee when available.
8.11.8	One resident stated that she would be inclined to switch to the trolley because she works at the Prudential Center. She would also be more inclined, if she were taking the trolley, to do her shopping in JP Center and would like the Business owners to consider this as a beneficial possibility.	
8.11.9	There was a request that public information also be given to the Mission Gazette so that the people of Mission Hill can be aware of progress of the Project.	
8.11.10	Sarah Freeman, JP resident, stated that a concern is that the Heath Street area has very awkward pedestrian access. She would suggest having more clear pedestrian signage. It was also stated that Ms. Freeman is glad to here about the need to work with the MDC or its successor. Additionally, she noted that the Forest Hills master plan and this project will have significant impact on each other.	
8.11.11	John Kyper, ARRPAC member, stated that streetcar priority at intersections may lead to having dedicated signals for the trolleys identical to traffic signals. He recommended using different signals, similar to those utilized in other parts of the country. Mr. Kyper also noted that the existing street running section between Brigham Circle and Heath Street should also be investigated for consolidating bus stops.	
8.12	The next public meeting will be held after the ENF is filed.	

Attachment:

- Sign-In Sheet

Cc: File

MBTA Arborway Restoration Project

PUBLIC MEETING

**ARRPAC
MEMBERS**

Attendance Register

February 3, 2003

7:00 PM - 9:00 PM

ONLY

ARRPAC MEMBERS

Name:	Affiliation	Email Address:	✓ if in Attendance
Baron, David	ARRPAC/Citizen	dbaron@mindspring.com	✓ ORB
Blackington, Neil	ARRPAC/EMS	blackington@bostonems.org	MPB
Boylan, Barbara	ARRPAC/MBTA	bboylan@MBTA.com	
Brown, Mira	ARRPAC/Citizen	mira@bikesnotbombs.com	
Calcaterra, Peter	ARRPAC/MBTA	pccalcaterra@mbta.com	PCO ✓
Carney, Terry	ARRPAC/Citizen	None	TC ✓
Clark, Arva	ARRPAC/Citizen	arvac Clark@earthlink.net	ajc ✓
Davis, Tom	ARRPAC/Citizen	tomd@tcbinc.org	TRD ✓
DeBeau, Catherine, Dr.	ARRPAC/Citizen	cdubeau@caregroup.harvard.edu	
DeNisco, Ralph	City of Boston, BTB	Ralph.denisco@ci.boston.ma.us	
Demos, Kosta	AARPAC/CCTobin	kostademos@earthlink.com	
Doherty, Karen Caplan	ARRPAC/Citizen	caplandoherty@aol.com	
Doherty, Nancy	ARRPAC/Rep. Malia	Nancy.Doherty3@verizon.net	✓ ND
Dwyer, Brian	ARRPAC/MBTA	bdwyer@mbta.com	
Elder, Rosalyn	ARRPAC/Citizen	Fax number: 617-327-6898	
Fargen, David	ARRPAC/CCross	dayfar@earthlink.net	
Ferris, Jeffrey	ARRPAC/Citizen	jferris@theworld.com	Jf
Fixler, Elizabeth	ARRPAC/Citizen	None	
Garr, Andrea	ARRPAC/Friends of Copley Sq.	Copleysq@aol.com	
Gupta, Vineet	ARRPAC/BTD	Vineet.gupta@cityofboston.gov	
Jayasinghe, Para	City of Boston, Pubic Works		Para ✓
Krasner, Richard	ARRPAC/Citizen	rkrasner@harvestcoop.com	
Kyper, John	ARRPAC/Citizen	jkyper@gis.net	JK ✓
Lieberman, William	Consultant to the MBTA	None	
Maxfield, John	ARRPAC/Mayor's Office	Maxfield_co@msn.com	
Miele, Theresa	ARRPAC/Citizen	None	

MBTA Arborway Restoration Project

PUBLIC MEETING

Name:	Affiliation	Email Address:	✓ if in Attendance
Moloney, Kevin	ARRPAC/CCHennigan	moloneys@mindspring.com	✓
Nedeljkovic, Srdjan	ARRPAC/Citizen	srdjan@zeus.bwh.harvard.edu	
Neresian, Peter	ARRPAC/Sen. Joyce	pnerses@softhome.net	✓
O'Malley, Thomas	ARRPAC/Citizen	tjo'malleyre@aol.com	✓
Reiskind, Michael	ARRPAC/Citizen	jpmichael@rcn.com	✓
Rogers, Alison	City of Boston, Mayor's Office	Allison.rogers@ci.boston.ma.us	✓
Saks, Adrien	ARRPAC/Rep. Rushing	asaks@partners.org	
Salimbene, Franklyn	ARRPAC/Citizen	fsalimbene@aol.com	✓
Santay, Michael	City of Boston, BPD	tagnwh@aol.com	
Schell, Andrew	ARRPAC/Citizen	None	
Silverstein, Joy	ARRPAC/Citizen	freshhairsalon@aol.com	✓
Southwick, Merlin	ARRPAC/Citizen	mgsouthwick@attbi.com	✓
Spinetto, Stephen	City of Boston, Commission for Persons with Disabilities	None	
Sullivan, Fred	ARRPAC/BFD	Freds.bfd@ci.boston.ma.us	✓
Sullivan, Sean	ARRPAC/Rep Smizik	arborway@bluebrook.com	✓
Van Zandt, Kenneth	ARRPAC/BPD	Vanzandt1.bpd@ci.boston.ma.us	
Wepsic, Karen	ARRPAC/Citizen	Karen_wepsic@hms.harvard.edu	✓
Zirilli, Michael SAL	ARRPAC/Citizen	None	✓
Zoulalian, George	ARRPAC/Sen. Wilkerson	Geopz99@aol.com	✓
Chapman, W.	ARRPAC/Citizen	WJHChapman@aol.com	✓

MBTA Arborway Restoration Project

PUBLIC MEETING

Attendance Register

FEB, 3 2003 ~~December 18, 2002~~

7:00 PM - 9:00 PM

Name:	Address:	Email Address:
MICHAEL FRANK	45 ALDWORTH ST. JP 02130	mfrank88@aol.com
Wm. Chapman	111 Pearl St. #10F 02130	wthchapman@aol.com
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alan smith	2 greenough JP	
JIM SCHANTZ	10 CONCORD DR BOSTON	jxschantz@compuserve.com
FRED MALONE	20 MONTFERN AVE BRIGHAM 02135	617-282-4445
DIANE BROWN	44 ELLINGWOOD ST ROK MA 02120	dianemjb@yahoo.com
FRANK DeMASI	26 MACARTHUR RD WELLESLEY MA 02482	fsdemasi@comcast.net
Paul Runkler (Sen. Wilkerson's Office)	State House Rm 312C Boston 02133	
ARVA CLARK	10 BEAUFORT RD. #4 J.P.	arvaclark@earthlink.net
Carolyn Manson	19 Cataumet St. JP	
RAFAEL McLAUGHLIN	297 WACHSSETT STREET J.P.	rafaelmcLaughlin@hotmail.com
Jeff KURLAND	60 Brentwood Ave Newton 02459	jeffkurland@ATTB1.com
MARK MacConnell	33A Bond St J.P. MASS	617 971-9772
Christopher Hunt	374 Congress St Boston	617 6951225
John Hulse	9 Surrey Hill Ln JP.	617 525-1017
F.P. Salimbene	51 Eliot St. JP.	524-5231
Elaine Hackney	Boing! 729 Centre St	522-7800
ED Koutz	8 Dresden St	617
Ann Lopez		524-8529
Sophie Parker	18 Burr St	524-0971
MARK Small	545 Centre Street J.P.	617/524-3891
Sarah Freeman	27 Arborway JP	617-524-0602
Tobias Johnson	23 Gay Head St JP 02130	617-524-2580
Andy Z	GAZETTE	

PUBLIC MEETING

775-1

Appendix D— Correspondence



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

JANE SWIFT
Governor

BOB DURAND
Secretary

LAUREN A. LISS
Commissioner

November 7, 2001

Secretary Kevin J. Sullivan
Executive Office of Transportation and Construction
Ten Park Plaza
Boston, MA 02116-3969

**Re: Decision on the EOTC Infeasibility Determination for the Arborway
Restoration Project and Petition for Substitution Pursuant to 310 CMR 7.36**

Dear Secretary Sullivan:

By your June 15, 2001 correspondence, the Executive Office of Transportation and Construction (EOTC) submitted to the Department of Environmental Protection (the Department) a proposed demonstration of infeasibility for the Arborway Restoration Project (the "Arborway Project"), and a petition for a substitute project pursuant to the Transit Systems Improvement regulation, 310 CMR 7.36 (the transit regulation). As part of the submittal, EOTC also included two support documents/reports prepared by URS Corporation Group Consultants ("Analysis of Restoration of Light Rail to the Arborway" or the "URS Report") and SYSTRA Consulting ("Arborway Alternatives Analysis" or the "SYSTRA Report").

The EOTC submittal requests that the Department accept the determination that restoration of light rail service on the Arborway, a service the MBTA operated until 1985, is infeasible and approve a substitute project pursuant to the transit regulation. However, based on the requirements of the regulations, comments received by the Department both in writing and at a public meeting held on July 10, 2001, and EOTC's inability to substantiate that light rail service on the Arborway is infeasible due to engineering, environmental, or economic impacts, DEP cannot approve EOTC's demonstration of infeasibility or accept the petition for a project substitution.

The transit regulation provides that to replace a listed project, EOTC must demonstrate to the Department that the project is infeasible due to associated adverse engineering, environmental, or economic impacts. An alternative project may then be substituted if EOTC also demonstrates to the Department that the alternative project achieves equal or greater emission reductions of nonmethane hydrocarbons (NMHC), carbon monoxide (CO), and nitrogen oxides (NOx) and would provide a greater improvement in air quality for CO and NOx in the area where the required project was to have been implemented, in both the short and long term.

This information is available in alternate format by calling our ADA Coordinator at (617) 574-6872.

DEP on the World Wide Web: <http://www.state.ma.us/dep>

Printed on Recycled Paper


The Department's determination on EOTC's submittal focused on whether EOTC has in fact demonstrated that the Arborway Project is infeasible within the criteria of the transit regulation. EOTC's submittal indicates that the Arborway Project will attract new ridership and result in air pollution emission reductions. Therefore, the project will have an environmental benefit and is not infeasible due to adverse environmental impacts.

In terms of adverse engineering impacts, while EOTC presents some engineering and operational constraints such as parking and traffic impacts and potential impacts on Green Line operations, it is the Department's understanding that any new or replacement transit service will present operational and engineering challenges. In fact, the MBTA did operate transit service along this corridor until 1985. In addition, the MBTA and City of Boston signed an agreement in 1990 that outlined how the design and operational challenges raised at that time would be addressed. Based on this history and the Department's review of EOTC's submittal, it does not appear that the restoration of the Arborway Project presents unique constraints that could not be addressed in the design process. Therefore, the Department finds that the EOTC has not demonstrated that the Arborway is infeasible based on engineering impacts.

Finally, the Department finds that EOTC has not demonstrated that the Arborway is infeasible based on economic impacts. Although EOTC's analysis of the capital and operating costs reports that restoring light rail on the Arborway are significant, the Department has determined that these costs can be considered reasonable when compared to other new or replacement transit service. Further, based on public comment received, it is suggested that there are reasonable alternative assumptions, which could lower the capital cost estimates for light rail restoration and increase costs for EOTC's proposed bus alternative.

The Department requires by this letter that a schedule for design and construction of the Arborway Project be provided to the Department by December 31, 2001. The schedule shall include benchmarks, milestones and action items and shall be subject to approval by the Department.

Very truly yours,


for Edward P. Kunce
Deputy Commissioner

cc: Bob Durand, EOEA Secretary
Robert Prince, General Manager MBTA